

SOME FEATURES OF DENE-CAUCASIAN PHONOLOGY (WITH SPECIAL REFERENCE TO BASQUE)

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The Basque language has long mystified historical linguists. Many to this day have given up and concluded that Basque is hopelessly isolated from all other languages, and there is no hope of conclusively linking it with any other language or language family.¹ However, for at least a century a minority of linguists (*e.g.*, BLEICHSTEINER, BOUDA, FURNÉE, LAFON, SAPIR, SHAFER, SWADESH, TAILLEUR, TOPOROV, TROMBETTI) have caught glimpses of what we now call the Dene-Caucasian language (macro-)family. These scholars thought they could discern traces of an old language family embracing some of the families and isolates of northern Eurasia (and extending into North America), negatively defined as those that did not fit into the developing hypotheses of Afro-Asiatic (Hamito-Semitic) and Nostratic macro-families. These entities are Basque, Caucasian,² Burushaski, Yeniseian, Sino-Tibetan, and Na-Dene.

In the early 1980's Sergei A. STAROSTIN of Moscow published papers³ reviving these ideas, though this time with strict scientific methods (including glottochronology, phonological correspondences, and reconstructions) that finally put the deep genetic relationship of the Caucasian family with the Sino-Tibetan and Yeniseian families on firmer ground.⁴ STAROSTIN called the family "Sino-Caucasian," and his colleague Sergei L. NIKOLAYEV⁵ extended the family to include the Na-Dene family of North America. English translations of these papers were published in a book edited by Vitaly SHEVOROSHKIN (1991) entitled *Dene-Sino-Caucasian Languages*, and the term "Dene-Caucasian" became widely current among both proponents and opponents of the hypothesis, though STAROSTIN still uses "Sino-Caucasian."

Also in the 1980's the Abkhaz scholar Viacheslav A. CHIRIKBA⁶ published a brief article in which he attempted to revive the hypothesis of a genetic relationship

1 The leading proponent of this point of view was R.L. TRASK (*e.g.*, 1994, 1995, 1997).

2 "Caucasian" as used in this paper is restricted to the "North" Caucasian family (Abkhazo-Adygean + Nakh-Dagestanian). The Kartvelian (formerly "South Caucasian") family belongs to the Nostratic macro-family.

3 STAROSTIN (1982, 1984); for English translations, see STAROSTIN (1991), STAROSTIN & RUHLEN (1994).

4 This assessment may of course be debated. For some opposing views see TRASK (1994-95, 1995, 1997), VOVIN (1997, 2002), and responses thereto (BENGTON 1995a, 1995b, 1999c, BLAŽEK 1995, STAROSTIN 1996, 2002a).

5 NIKOLAYEV (1991). In an addendum to the article NIKOLAYEV proposed cognates from Algonkian and Salishan languages, "which, as it seems, also belong to Sino-Caucasian." Vitaly SHEVOROSHKIN (*e.g.*, 2003) has pursued this line of research.

6 CHIRIKBA (1985).

between Basque and the Caucasian languages.⁷ CHIRIKBA's essay inspired others, including Václav BLAŽEK and the present writer, to explore the hypothesis that Basque belonged to the Dene-Caucasian family in a series of articles published throughout the 1990's and since.

In a forthcoming article on Sino-Caucasian phonology STAROSTIN makes this observation:

It is always pleasant for a comparative linguist to discover some new, non-trivial rule of correspondence. In the case of macrofamilies like Nostratic or Sino-Caucasian, this is still more exciting, because non-trivial correspondences are actually the main subjective proof of relationship (while general correspondences and statistic considerations supply the objective evidence).⁸

STAROSTIN then goes on to describe several types of “non-trivial” correspondences. For example, he demonstrates a correlation between Caucasian *tenseness* (indicated below by underlining>) and the Yeniseian *glottal stop* /ʔ/:

- Caucasian (PNC) *=ěǰĚ ‘half, middle’ (Avar b-áǰ’:u-~~ǰ~~ = b-áǰ’u-~~ǰ~~ ‘between’)
 ~ Yeniseian (PY) *ǰaʔl ‘half, middle’; cf. Bsq *erdi ‘half, middle’;⁹ PST *T-lǰj ‘middle, navel’
- PNC *cārgwǰ ‘mouse, squirrel, weasel’ (Avar caǰ’:ú = caǰ’ú ‘weasel’)
 ~ PY *saǰqa ‘squirrel’; cf. Bsq *sāgu ‘mouse’;¹⁰ Bur. (Y) čargé ‘flying squirrel’; PST *sreǰ ‘squirrel’
- PNC *ǰwīnc ǰ < *ǰwīcin ǰ ‘spring (of water)’ (Avar ic: = ic)
 ~ PY *siǰn- ‘spring, water-hole in ice’; cf. Bsq *fiošin ‘well, depth’;¹¹
 PST *ciǰǰH ‘well, pond’

STAROSTIN cites no fewer than fifty-eight examples of this correspondence. Conversely, in words where Proto-Caucasian had no tense consonants, the cognate Yeniseian words also lack the glottal stop:

- PEC *čfiwěme ‘eyebrow’ ~ PY *cəǰe ‘hair’; cf. Bsq *sama-ǰ ‘fleece’;¹² Bur.

7 For a critique of CHIRIKBA's paper, see TRASK (1997: 395ff.).

8 STAROSTIN (forthcoming).

9 (c) *erdi* ‘half, middle’.

10 (c) *sagu*, (BN-Aldude) *sabu* ‘mouse’, (c) *sagu-zar* ‘bat’ (lit. ‘old mouse’), *sat-itsu* ‘shrew’ (lit. ‘blind mouse’), etc.

11 (L) *hosin*, (c) *osin* ‘deep place in a river, well, pool’, (G) ‘sea’. Proto-Basque **fi* (voiced laryngeal fricative?) became /h/ in Lapurdian and Low Navarrese, but 0 in Zuberoan. Proto-Basque **h* became /h/ in all three “French” dialects of Basque. Both **fi* and **h* were lost in the “Spanish” dialects of Basque (except in very early recordings).

12 *zamar* (AN, BN) ‘fleece, shorn wool’, (Z) ‘shaggy mop of hair’, (AN, BN, R, Z) ‘animal hide used as raincoat by shepherds’, etc.

**še[m]* ‘wool’;¹³ PST **chām* ‘hair, wool, eyebrow’
 PNC **ǰāpi* ‘leaf’ ~ PY **jōpe* ‘leaf’; cf. Bsq **lapa-ṛ* ‘bramble, thorn’;¹⁴ Bur. **ltap*
 ‘leaf’;¹⁵ PST **lāp* ‘leaf’
 PEC **čhatē* ‘fence, enclosure’ ~ PY **čol-* ‘wicker hurdle’; cf. Bsq **śale*
 ‘net, grill, grate’¹⁶

There are 83 examples of this correspondence. STAROSTIN remarks that the “Yeniseian parallels, however, do not tell us much about the phonetic nature of this feature in PSC ... and reconstructing an additional laryngeal ... in PNC does not seem very reasonable.” A clue might be found in an analogous correspondence in the Scandinavian languages, where “Accent 1” (stress) in Swedish and Norwegian corresponds to the presence of Danish *stød* (glottal stop /ʔ/), and “Accent 2” (a kind of circumflex) corresponds to the absence of *stød*:

Swed. /úllən/, Norw. /úlla/ ‘the wool’ = Dan. /úlʔən/ ‘the wool’
 Swed., Norw. /dréŋŋən/ ‘the hired man’ = Dan. /dréŋʔən/ ‘the boy’
 Swed. /ýllən/, Norw. /ùllən/ ‘woolly’ = Dan. /úlən/ ‘woolly’
 Swed., Norw. /drêŋŋar/ ‘hired men’ = Dan. /dréŋə/ ‘boys’

Possibly the Caucasian-Yeniseian correspondence discovered by STAROSTIN is the result of a suprasegmental feature of PDC, such as pitch or stress accent.

We have made significant progress in the comparative phonology of Basque, within the framework of Dene-Caucasian. In 2003 I presented a paper at the Santa Fe Institute summarizing my work with Basque comparative phonology, with Dene-Caucasian etymologies for about 300 Basque words.¹⁷ During the course of this work with Basque I have discovered several non-trivial correspondences of the type STAROSTIN refers to. In my opinion, these not only help to solidify the position of Basque within the Dene-Caucasian family, but also to refine our understanding of the nature of the Dene-Caucasian proto-language. Basque, as the sole survivor of a formerly widespread “Vasco-Iberian” language family, retains some archaic features of great value for PDC reconstruction.

In the comparisons that follow “PDC” refers to Proto-Dene-Caucasian. The PDC proto-forms are based on those found in STAROSTIN’s work, which were made on the basis of four families (Caucasian, Burushaski, Yeniseian, and Sino-Tibetan). Some of STAROSTIN’s PDC forms have been modified below on the basis of information supplied by Basque. It is my expectation that modification and refinement of the PDC proto-forms will be an ongoing process, just as is the case for hypothetical proto-forms for all language families.

Where PDC proto-forms are not yet available, or supplemental to PDC, other

13 (H,N,Y) *še*, (H,N) pl. *šemiŋ*.

14 (B,BN,R) *lapar* ‘bramble = zarza / ronce’.

15 (Y) *tap* ‘leaf’, du-*ltápi-* ‘to wither’; (H,N) *tap* ‘petal, page’, du-*ltápu-* ‘to wither’.

16 (c) *sare*, (B) *sale* ‘net, grill, grate, stockade, manger’.

17 BENGTON (2003a); a portion was published as BENGTON (2003b).

reconstructions are cited: PNC (Proto-Caucasian),¹⁸ PEC (Proto-East Caucasian), PWC (Proto-West Caucasian),¹⁹ PY (Proto-Yeniseian),²⁰ PST (Proto-Sino-Tibetan).²¹ In the comparisons < denotes “derived from,” > denotes “ancestral to,” and ~ indicates “compared with.” Because of the vast amount of linguistic material, most of the attested forms are cited in the endnotes. Since some comparisons are repeated in the text, subsequent repetitions may have no endnotes and the reader is referred to the previous citation of the same comparison.

1. Resonant and sibilant affricate clusters

This is the first set of non-trivial correspondences between PDC and Basque that will be discussed here. PDC had a rich phonological system, including medial clusters of liquid resonants and sibilant affricates. These PDC clusters produce different results in Basque, depending on the eventual syllabic structure of the Basque word:

1.a. When the Basque word is multisyllabic, and the second vowel is /a/, /e/, /o/, or /u/, or before a consonant, the liquid disappears:

PDC **bilʒV* ‘hair (feather, whiskers)’²² > Bsq **bisa-ř* ‘beard’ > (c) *bizar* ‘beard’,
bizarra ‘the beard’

PDC **ʔwārcwǎ* ‘skin’²³ > Bsq **asa-l* ‘skin, bark’ > (c) *azal*, (R) *kazal*²⁴

PDC **=īlčwī* ‘girl, woman’²⁵ > Bsq **ise-* ‘aunt’ > (c) *izeba*, (BN-Aldude) *izea*, (B) *izeko*

PDC **HVǰwV* (PNC **Hǎ(r)ǰwī*) ‘tree’²⁶ ~ Bsq **ha(i)ce* ‘tree’ > (R) *atze* ‘tree’, (BN, L) *zu-haitz*, etc.

PDC **bhǎrcǎ* ‘a large predator’²⁷ > Bsq **očo* ‘wolf’ > (c) *otso*

PEC **λwilčwV* ‘dirt; bog, marsh’²⁸ ~ Bsq **lisu-n* ‘moldy, musty, dirty’ > *lizun* (c) ‘moldy, musty, mustiness’, (AN,B,G) ‘dirty, untidy’

PEC **=īrcVI* ‘to twirl, turn round’²⁹ ~ Bsq **iculi* ‘to turn, turn over, return’ > (c) *itzuli*, (R) *utzuli*, (Z) *ützüli*

18 NCED (NIKOLAYEV & STAROSTIN 1994). In many cases the PNC form is very close to PDC.

19 CWC (CHIRIKBA 1996).

20 SSEJ (STAROSTIN 1995).

21 STD (PEIROS & STAROSTIN 1996).

22 Hunzib *bilaž-ba* ‘beard’, Bezhta *bizal-ba* ‘mustache’, Agul *mužur* ‘beard’, etc. (NCED 303); Bur. **biś-ké* ‘(animal) hair, fur’ > (H,N,Y) *biśké*; PY **pis* ‘(bird’s) tail’ (SSEJ 249).

23 Abaza *čwa* ‘skin, bark’, Budukh *fič* ‘skin (of cattle)’, Hurrian *aš7i* ‘skin’, etc. (NCED 228); PY **?esc* ‘scale (of fish)’ (SSEJ 188).

24 The initial *k-* in the Roncalese variant is a mystery.

25 Chechen *d-ēca* ‘paternal aunt’, Lak *duš* ‘daughter’, Tsakhur *iDi* ‘girl’, etc. (NCED 952).

26 Karata *ežela* ‘pine tree’, Khwarshi *aža* ‘tree’, Adyge *čə-γə* ‘tree’, etc. (NCED 549); PY **ǰi?* ‘tree trunk’ (SSEJ 310; LDC #65).

27 Andi *boc’o*, Lak *barc’*, Chechen *borz* ‘wolf’, etc. (NCED 294); PST (Old Chinese) **prāts* ‘mythical predator’; PY **pc(?)s-tap* ‘wolverine’ (SSEJ 247).

28 Lak *kunc’a*, Andi *łenc’:u* ‘bog, marsh’, etc. (NCED 770).

29 Agul *ilcan-* ‘to turn (on an axis)’, Tabasaran *b-ilcun-ag* ‘whirligig, humming-top’, etc. (NCED 649).

PDC **mHǎřčwV̇* ‘snot’³⁰ ~ Bsq **mošu* ‘nose’ > (G) *musu* ‘nose, face, kiss, point’, (B) *mosu* ‘kiss’, etc.
 PEC **tĥVrčwV* ‘dirt, bog’³¹ ~ Bsq **toś-ka* ‘(fine white) clay’ > (c) *toska*, (L) *thoska*
 PDC **χHVrčV̇* ‘a carnivore’³² > Bsq **has-koin* ‘badger’³³ (cf. **hařc* ‘bear’, below)

1.b. When the Basque word is disyllabic, and the final vowel is /i/, the liquid-affricate cluster results in Basque /h/, probably by way of a hypothetical development of *š or (retroflex) *ṣ > (velar fricative) *x > /h/. The /h/ is subsequently lost in southern Basque dialects (AN,B,G,R):

PDC **mčlčř* ‘tongue’³⁴ > [**miṣi*] > **mixi* > Bsq **mih* ‘tongue’³⁵ > (BN,L) *mih*, (Z) [mĥi], (G) *mii*, *mi*, (AN,R) *mi*, (B) *min*
 PNC **ʔVlčĚr* ‘weed’³⁶ ~ [**iṣi*] > **ixi* > Bsq **ih* ‘rush’ (water plant) > (BN,L) *ih*, (Z) [ĥi], (B,G) *ii*
 PDC **bołčwř* ‘a cereal’³⁷ > [**biṣi*] > **bixi* > Bsq **bih* > (BN,Z) *bih* ‘seed, grain, fruit’, (AN-Baztan) *bigi* [biγi] ‘fruit’, etc.
 PEC **bĥərčwV* ‘cattle’³⁸ ~ [**beṣi*] > **bexi* > Bsq **beh* ‘cow’ > (BN,L,Z) *beh*, (AN,B,G,R) *bei*

While the stage represented by [**miṣi*], etc. is entirely hypothetical, the stage represented by **mixi* [miçj], **bexi* [beçj], etc., is attested: see, for example, the recordings of Low Navarre dialects by MOUTARD (1975): [mih(ç)ja] ‘la langue’, [beh(ç)ja] ‘la vache’³⁹ (cf. BENGTONSON 1995b: 100-101).

1.c. When the Basque word is monosyllabic, both liquid and affricate remain

30 Chechen *marš*, Chamalal *maš* ‘snot’, etc. (NCED 816); Bur. (H,N) –*mús* ‘snot’ (also ‘nose’ in Y), (Y) –*mús*-puš-i- ‘nostrils’, etc.

31 Hunzib *tac* ‘bog’, Chechen *t’q’arš* ‘slush, mire’, etc. (NCED 992).

32 Chechen *xešt* ‘otter’, Dargwa *χ:arc* ‘marten, squirrel’, etc. (NCED 1073); PY **χa(?)s* ‘badger’; Na-Dene: cf. Haida (Alaskan) *xúuc* ‘brown bear, grizzly bear’, Tlingit *xúuc* id.

33 (Z) *harzkz*, *hazkz*, (R) *azkoř*, (L) *azkuin*, (BN) *azkoin*, (AN, L) *azkona*, (AN, B, G) *azkonar*, etc. It seems to be a compound of *hartz* + **ko(i)n*, the latter of which may be cognate with Yeniseian **k”ñ* ‘wolverine’ (SSEJ 242).

34 Godoberi *mic:i*, Andi *mic’:i*, Avar *mac’:*, Tabasaran *melz*, Kabardian *bza*, etc. ‘tongue’ (NCED 802); ? Bur. **-jú-mus* ‘tongue’ > (H,N) –*úmus*, (Y) –*yúpus*.

35 Obviously we dispute the reconstruction **bini* ‘tongue’ (e.g., TRASK 1997: 141, following MICHELENA). That reconstruction cannot account for the strong fricative in [mih(ç)ja] recorded by MOUTARD.

36 Godoberi *hanč’ir*, Khwarshi *ič’ila*, Lezgi *eč’el* ‘weed’, etc. (NCED 223).

37 Godoberi *buča* ‘millet’, Avar *muč*, Kabardian *maš* ‘millet’, etc. (NCED 307); Bur. **baž* ‘(small-grained) millet’ > (H,N) *ba* [̌] (Y) *ba*; PST **phrē(s)* ‘rice, buckwheat’ (STD I: #302).

38 Godoberi *purc:i*, Avar *bóc’:i* ‘cattle’, Lezgi *barc’ak* ‘young buffalo’, etc. (NCED 296).

39 Possibly the standard Basque orthography influenced MOUTARD to write [mih(ç)ja], [beh(ç)ja] rather than simply [miçja], [beçja].

intact (the latter as /c/ [orthographic *tz*]):

- PNC **ʔw(i)n̄rcE* ‘insect’⁴⁰ ~ Bsq **bārc* ‘nit’ > (B) *bartz*, (R,Z) *bartx*, (AN,BN,G,L) *partz*, (BN) *phartz*⁴¹
- PEC **pārcē* ‘water jug’⁴² ~ Bsq **Pērc* ‘cauldron’ > (L) *phertz*, (AN,G) *pertz*, (AN,BN,R,Z) *bertz*
- PDC **χHVrcV̄* ‘a carnivore’ > Bsq **hārc* ‘bear’ > (BN,L,Z) *hartz*, (AN,B,G,R) *artz*; (cf. **has-koin* ‘badger’, above)
- PDC **[k]ə[r]ǰwē* ‘tooth, fang’⁴³ > Bsq **hōrc* ‘tooth’ > (BN,L,Z) *horts*, (AN,G,R) *orts*
- PDC **GHwālcV̄* ‘stick, board, bolt’⁴⁴ > Bsq **gilc* ‘key’ > (c) *giltz*⁴⁵

2. PDC clusters of nasals and dental or (post-)velar occlusives

As a general rule, nasals are preserved in Basque in this position. The occlusives tend to become voiced (/nd/, /ng/), with some exceptions (/nt/, /nk/), mainly in Eastern Basque (esp. Zuberoan, Roncalese):

- PDC **ʔantV̄* ‘earth, sand’⁴⁶ > Bsq **fionda-ṛ* ‘sand’ > (L) *hondar* ‘sand, bottom’, (B,G) *ondar* ‘sand’, etc.⁴⁷
- PEC **ʔuntV̄* ‘sickness, defect’⁴⁸ ~ Bsq **ondiko* > (AN,BN,L) *ondiko* ‘misery, misfortune’, (Z) *undika-tü* ‘to insult, outrage’, etc.
- PDC **xqHWintV̄* ‘knee, elbow’⁴⁹ > Bsq **u-kondo* ‘elbow’ > (L) *ukhondo*, (AN,B,Sal) *ukondo*, (BN-Aldude) *ukhundo*⁵⁰
- PDC **λwiŋdV̄* ‘wood, firewood’⁵¹ > Bsq **i-lhinti* ‘firebrand, ember’ > (Z) *ilhinti*,

40 Tindi *resi* ‘moth’, Archi *winisi* ‘bedbug’, Abkhaz *á-ʒ* ‘flea’, etc. (NCED 231); PST **nūt* ‘mosquito, gnat, moth’ (STD II: #169).

41 Initial /b/ is the expected reflex. An alternation such as /b/ ~ /p/ seems to be universally common in words denoting parasitic insects: cf. Lith. *blusà*, Rus. *блоха* ~ Skt. *pluṣi-*, Alb. *plesht* ‘flea’, etc.

42 Avar *parč:i* ‘earthenware water jug’, Lak *parš:* ‘brass water jug’, etc. (NCED 866).

43 Lak *k:arD:i* ‘tooth’, Avar *gožó* ‘fang, canine tooth’, Tsez *gožu* ‘molar’, etc. < PEC **gə[r]ǰwē* (NCED 435).

44 Hunzib *ʔ8ši* ‘bar, (door-)bolt’, Lak *q:iDa* ‘(door-)bolt’, etc. (NCED 459) PY **qēǰ-* ‘pole’ (SSEJ 258).

45 *giltz* in most dialects, but *giltza* in (AN, G). The latter appears to reflect lexicalization of the definite article *-a*.

46 Tsez *atu* ‘dirt, mud’, Khinalug *ant* ‘earth, ground’ (NCED 201); PY **ʔc?d-* ‘sand’ (SSEJ 186).

47 There has probably been some interference and contamination between Bsq **fionda-ṛ* and Spanish *hondo* (< Lat. *fundu-*), though the latter by itself cannot account for Bsq **fionda-ṛ*.

48 Avar *únti* ‘sickness, ailment’, *únt-ize* ‘to be sick’, Chechen *ant* ‘shortcoming, defect’ (NCED 221).

49 Lezgi *q’únt* ‘elbow’, Hinukh *q’ontu* ‘knee’, etc. (NCED 925); PY **g[i]ʔd* ‘joint’ (SSEJ 227); Na-Dene: Eyak *guhđ*, *Guʔd*, *gūhđ* ‘knee’, Athabaskan **Gutʔ* (*-*Gʷutʔ*) ‘knee, elbow’ > Navajo *-gòđ*, etc. (SD 218, 225).

50 We prefer this to the explanation of **ukundo* as a compound of the obscure word *uk(h)o* ‘forearm’ + *ondo* ‘bottom’.

51 Andi *ʔudi*, Chamalal *ʔunni*, Khwarshi *lida* ‘firewood’, etc. (NCED 764); PST **lǰ* ‘a kind of tree’ (STD III: #39); Na-Dene: Eyak *ʔid*, *ʔəd* ‘dead wood, dry wood’, etc. (SD 226, LDC #72).

(B,R) *ilindi, illindi, etc.*
 Proto-Circassian **khwǎ(n)də* ‘much, many’⁵² ~ Bsq **haundi* ‘great, big, large’ >
 (BN,L) *haundi*, (c) *handi, andi*
 PDC **čijǵdV* ‘stump, stick’⁵³ > Bsq **sendo-ř* ‘load of firewood’ > (G) *zendor*
 PDC **řǎmdV* / **řǎmtV* ‘joint, bone’⁵⁴ > Bsq **ondo* > (AN,B,G) *ondo* ‘tree trunk’,
 (R,Z) *ondo* ‘trunk, stump’, etc.
 PDC **[s]HwintV* ‘sniff’⁵⁵ > Bsq **Sunda* ‘sniff, smell’ > (B) *zunda, sunda* ‘sniffing,
 odor’⁵⁶
 PEC **fimkwV* ‘fist’⁵⁷ ~ Bsq **hu(n)ki* ‘touch, feel’ > (BN,L,Z) *hunki-*, (AN,G,L) *uki-*
 PDC **[t]Hǎnko* ‘drop, spray’⁵⁸ > Bsq **tanka* ‘drop’ > (R, Z) *tanka*, (B) *tanga*
 PEC **čǎnkV* ‘trap’⁵⁹ ~ Bsq **čank-* ‘lame’ > (BN, Z) *txainku*, (BN, L) *xanku* [šǎŋku], (G)
txanket [čǎŋket] ‘lame’
 PDC **HǎnqwV* ‘meadow’⁶⁰ > Bsq **angio* ‘(fenced) pasture’ > (B) *angio*
 PDC **xqǎm(x)q(w)ǎ* ‘joint, bend’⁶¹ > Bsq **kunku-ř* > (AN,BN,R,Z) *kunkur* ‘hump,
 knob’, (R) ‘joint (of bones)’
 PDC **[G]wVnGwV* ‘neck’⁶² > Bsq **gonga-ř* ‘windpipe’ > (AN-Baztan) *gongar*

However, the PDC sequence /**(H)Vn(x)K**/ results in Basque /**mVK**/, convergent with some Caucasian developments:

PDC **bVn(x)kwǎ* ‘belly’⁶³ > Bsq **maga-l* ‘lap, breast’ > *magal* (R) ‘lap, border of a
 garment’, (BN) ‘wing’, etc. : (cf. Abkhaz *á-mgwa* belly)
 PDC **bǎn(x)qǎ* (**pǎn(x)qǎ*) ‘back, side’⁶⁴ > Bsq **moko-ř* ‘bottom, buttocks’ >

52 Adyge *khwǎndə*, Kabardian *kwǎd* ‘much, many’ (CWC 149, LDC #203).

53 Avar *c’adári* ‘fuel’, Lak *c’inna* ‘dry stalks as fuel’ (NCED 366); PST **šij* ‘tree, wood’ (STD IV: #385);

PY **sV(?)ǵ-gVl-* ‘stump’ (SSEJ 279; cf. LDC #64).

54 Avar *hod* ‘spine’, Dargwa (Ak.) *řǎnd* ‘knee’, Agul *ad* ‘shin, shank’, etc. (NCED 247); Yen. **řa?d* ‘bone’ (SSEJ 178).

55 Avar *s:unt’* ‘snuff’, Tsakhur *řunt’* ‘dried snot’, etc. (NCED 961); PST **chūt* (**T-sūt* ?) ‘sniff, breathe’ (ST IV: #146).

56 Since the phonemes *z /s/* and *s /ś/* have merged in Bizk., it is difficult to know the original sibilant.

57 Bagwali *hunk’a* ‘fist’, Dargwa *ř:unk’* ‘fist’, etc. (NCED 428).

58 Rutul *t’ank’* ‘drop’, Avar *t’ink’* ‘drop’, etc. (NCED 1000); PST **tēk* ‘drop’ (STD II: #441); PY **teK-* ‘drop’ (SSEJ 283).

59 Rutul, Tsakhur *č’ank’* ‘trap’, etc. (NCED 384); cf. Bur. **čhangú* > (H,N) *čhangú*, (Y) *čangú* ‘lame’.

60 Khinalug *ánqa* ‘field’, Bezhta *ö“ä* ‘small plot of land’, etc. (NCED 561); PY **řoGV* ‘meadow’ (SSEJ 197).

61 Tabasaran *q’amq’* ‘knee’, Abkhaz *a- q’wǎq’wa* ‘hip-bones’, etc. (NCED 908); PST **kǔk* ‘bend’ (STD V: #270; cf. LDC # 43).

62 Andi *q:’wanq:’wa* ‘gullet’, Bezhta *řař* ‘crop, craw’, etc. (NCED 473); PST **qǎř* ‘neck’ > Tibetan *goy- ba* ‘collar’, etc. (STD V: #566).

63 Abkhaz *á-mgwa* ‘belly’, Avar *bak!wǎli* ‘belly’, etc. (NCED 318); PST **pǔk* ‘belly’ (STD I: #226).

64 Chechen *buq’*, Hinukh *moqoli*, Dargwa *muq’* ‘back’, etc. (NCED 310); PST **řǎř* ‘side, back side’ > Burmese *řhay* ‘buttocks, bottom, behind’, etc. (STD I: #183); ? Bur. **pa[n]* ‘side’ > (H,N,Y) ‘(by) side’.

(B,G) *mokor* : (cf. Hinukh *moqoli* ‘back’)
 PDC **bhǝnǵV* ‘pole, post’⁶⁵ > Bsq **mak-* ‘cane, stick, club, pole’ > (c) *makila*
 ‘cane, stick’, (B) *maket* ‘club, very thick pole’⁶⁶ : (cf. Bezhta *maq* ‘stake’)

While PDC *-*nχ-* yields Basque /*g*/, phonetically [*ɣ*]. Tindi and some other Caucasian languages convergently have a uvular fricative reflex:

PDC **cenχV* ‘to search, ask’⁶⁷ > Bsq **esagu-* ‘to know (a person)’ > (c) *ezagu-* :
 (cf. Tindi *c’iχ:i* ‘to search’)

PDC **λǝnχwV* ‘a kind of stone’⁶⁸ > Bsq **lega-r̄* ‘small stone, pebble, gravel’ >
 (B,BN,G,L) *legar* : (cf. Tindi *aχa* ‘ruins’)

PDC **λwǝnχV* ‘pus’⁶⁹ > Bsq **lega-r̄* ‘ulcer; rennet’ > (AN,L) *legar* ‘ulcer (in the
 mouth)’, (B) *legar* ‘rennet’ : (cf. Tindi *χwā-r* ‘pus’ < **χwāλ’a-r* < **λ’wōχo-r*)

PDC *-*mχ(w)-* apparently produces Basque /*b*/:

PNC **jimχwǞ* ‘river’⁷⁰ ~ Bsq **fibai* ‘river’ > (BN,L) *hibai*, (AN,B,G,Z) *ibai*

3. PDC liquids and lateral affricates

Proto-Dene-Caucasian had abundant liquids and lateral affricates whose developments are very interesting in the daughter languages. There were at least five liquid resonants or fricatives, **r*, (palatal) **r̄*, **l*, (velar) **l̄* and (voiceless) **l* [tʃ], and three lateral affricates, voiceless **λ* [tʃ], voiced **λ̄* [dl], and glottalized **λ̄* [tʃ’].

In Basque the phonetic picture was simplified, so that all original lateral affricates merged. However, the developments are peculiar, depending on their eventual position in the Basque word, and are excellent examples of the “non-trivial” correspondences referred to by STAROSTIN above.

3.a. In initial position all three PDC lateral affricates (along with PDC **l*, **l̄* and

(Y) *pan* ‘place on both sides of the hearth’.

65 Bezhta *maq* ‘stake’, Abkhaz *a-bq’w* ‘post, pillar’, etc. (NCED 295); Bur. **-pháγo* ‘cane, walking-stick’ > (H) *-pháγo*, (N) *-pháγu* [̄], PST **phVk* ‘rod, stick’ (STD I: #323) and/or **p(h)Ǟj* ‘tree, plant’ (STD I: #241).

66 The resemblance to Latin *baculum*, *bacillum* is coincidental.

67 Avar *c’ex:é-* ‘to search, ask’, Ubykh *зба-* ‘to ask’, etc. (NCED 359); PST **chǝj* ‘to gather up’ (STD IV: #83); PY **saŋ-* ‘to ask’ (SSEJ 270).

68 Akhwakh *λ’aχa* ‘ruins’, Hinukh *λ’iχwin* ‘cobblestone’, etc. (NCED 774); PST **T-liǞj* / **T-liāk* ‘stone’ > Lushai *luj*, etc. (STD III: #250); Na-Dene: Haida *†Ga:* ‘stone’ (SD 219).

69 Andi *loχwo* ‘pus’, Khwarshi *χiλ’* ‘snot’, etc. (NCED 783); PST **lij* ‘pus, abscess’ > Tibetan *lhij*, etc. (STD III: #94).

70 Godoberi *inχ:i* ‘river, brook’, Kabardian *ps%o-χwa* ‘river’, etc. (NCED 683).

*λ,) merged as Basque /l/:

Bsq **lisun* ‘moldy, musty, dirty’ (see above) ~ PEC **λwilçwV* ‘dirt; bog’⁷¹

Bsq **limuri* ‘wet, slippery’⁷² < PDC **λHwémV* ‘liquid, wet’⁷³

Bsq **leġa* ‘slipping, sliding; to slip, slide’ > (c) *terra-* ~ PEC **?VλV(r)* ‘to crawl, glide’⁷⁴

Bsq **lanbro* ‘fog, mist’⁷⁵ < PDC **λĕnrwV* / **rĕnλwV* ‘cloud, fog’⁷⁶

Bsq **lanho* ‘cloud, fog’⁷⁷ < PDC **λemĥwĀ* / **ĥwemλĀ* ‘cloud, dream’⁷⁸

Bsq **leheġ* ‘to burst’⁷⁹ < PDC **HġwVġr* / **λġHwVġr* ‘to burst, tear’⁸⁰

Bsq **lai* ‘two-pronged fork for loosening soil’⁸¹ ~ PEC **λVχwV* ‘rake’⁸²

Bsq **las* ‘beam, rafter’ > (L) *laz* ~ PEC **λVčV* ‘log, pole’⁸³

Bsq **lokV* ‘temple, forehead’⁸⁴ ~ PEC **λarqwĕ* ‘forehead, cap’⁸⁵

Bsq **lirain* ‘slender, svelte, lithe’ > (B,G,L) *lirain* < PDC **=iλġIV* ‘thin’⁸⁶

71 Lak *kunc’a*, Andi *ġenc’u* ‘bog, marsh’, etc. (NCED 770).

72 *limuri* (Z) ‘moist, humid, slippery’, (AN,G) ‘soft, smooth’, etc.

73 Avar *λ:amġ-ja-b* ‘liquid’, Dargwa (Chirag) *šġm-ze* ‘wet, liquid’, etc. (NCED 768); Bur. **tam* ‘bathe, wash, swim’ > (H,N) *tam dĕl-*, etc.; PST **liġm* ‘to soak’ (STD III: #82); Na-Dene: Proto-Eyak-Athabaskan **λe:ʔχ* ‘wet, to swim’.

74 Avar (Chad.) *λurs-* ‘to glide’, Hunzib *ġaġa-λ* ‘to crawl’, etc. (NCED 224); Na-Dene: Haida (Alaskan) *λuuʔuġ* ‘to crawl’, Tlingit *λux* ‘to creep, crawl’.

75 (B) *lanbro* ‘fog, mist, vapor’, (L) *lanbro* ‘fog, mist’, etc. The Basque words **lanbro* and **lanho* (next comparison) are very similar, phonetically and semantically, and have probably contaminated each other and merged in some dialects. (Cf. LDC #94, where both words are conflated.) However, in some dialects they are opposed, e.g. (AN-Baztan) *lanbro* ‘fog / bruma’ vs. *lano* ‘cloud / nube’ (according to AZKUE).

76 Chechen *do7k* ‘fog’, Khinalug *unk* ‘cloud’, etc. (NCED 947); Bur. **harġlt* ‘rain, cloud’ > (H,N,Y) *harġlt* (apparently influenced by **harġ-* ‘urinate’); PST **rĕġ* ‘rain, drop’ (STD II: #190).

77 (B,G) *laiġo* ‘fog, mist’, (BN,L) *lanho* ‘vapor’, etc.; see the note to **lanbro*.

78 Karata *hanλ’u* ‘cloud, fog’, Chamalal *hġla* ‘fog’, Khinalug *mik’ġ* ‘dream’, etc. (NCED 512); Bur. **-wĕłġi* ‘dream’ > (Y) *-wĕłġi*, (H,N) *-uġġi*; PST **mġġ* / **mġk* ‘dream’ (STD I: #71). “Andian languages demonstrate a non-trivial semantic development ‘dream’ > *‘vision’ > ‘cloud’” (NCED).

79 (BN,L,Z) *leher*; (AN,B,G,R) *ler*.

80 Hunzib =*uλ’* ‘to burst, tear’, Agul *t’ulk’an-* ‘to burst, split’, etc. (NCED 413); Bur. **-ltur* ‘to fall to pieces, disintegrate’ > (H,N) *-ltur-*, (Y) *tur-*, *du-ltur-*; PST **rur* ‘demolish, ruin, tatter’ (STD II: #391); PY **ʔil* ‘to break’ (SSEJ 193).

81 (AN,B,G,L,R) *lai* < **laHia*? Also found in Spanish *laya*, which “has no Romance etymology. ... that the word is Basque in origin ... appears plausible, though by no means certain.” (TRASK 1997: 418).

82 Avar *λ’:oχ:orχ:o*, Bezhta *λaχ-dami* ‘rake’, etc. (NCED 781); Na-Dene: Haida (Alaskan) *λaxaġdġaw* ‘file’, Tlingit *xġa* ‘herring rake’.

83 Akhwakh *λ’:eč’a* ‘log’, Bezhta *λ’eša* ‘board, step’, etc. (NCED 781).

84 (B,G) *loki*, (R) *lokun*, *lokune* ‘temple (of head)’, (B-Ubidea) *loki* ‘middle of forehead’.

85 Khwarshi *λ’oq’o* ‘forehead’, Avar *t’a’ur* ‘cap’, etc. (NCED 775); cf. PST **T-lĕk^w* ‘back, back of head’ (STD II: #228); Na-Dene: Navajo *λ’ah* ‘sides of the face, temples, side of head’, Carrier *-λ’a-* ‘temples’.

86 Avar *t’erĕna-b*, Khinalug *k’ir* ‘thin’, etc. (NCED 639); Bur. **tharĕn-* ‘narrow, tight [of clothes]’ > (H,N) *tharĕn-um*; PST **rial* ‘thin, watery’ (STD II: #269); Na-Dene: Haida *λ’a-* ‘thin flat object’.

Bsq **lahar* ‘bramble, creeping plant’⁸⁷ < PDC **λwǎrʔV* ‘leaf’⁸⁸
 Bsq **lapa-r̄* ‘bramble, thorn’ > (B,BN,R) *lapar* < PDC **λǎpí* ‘leaf’⁸⁹
 Bsq **IUb-* ‘corral, fence’⁹⁰ ~ PEC **λwibV* ‘stall, barn, shed’⁹¹
 Bsq **lega-r̄* ‘small stone, pebble, gravel’⁹² < PDC **λǎnχwV* ‘a kind of stone’⁹³
 Bsq **leřo* ‘line, file, row’ > (c) *lerro* ~ PEC **λwǎr(h)ǎ* ‘boundary, row, furrow’⁹⁴
 Bsq **lo* ‘sleep’ > (c) *lo* ~ PNC **=HVwλĀn* ‘to sleep’⁹⁵
 Bsq **lega-r̄* > (AN,L) *legar* ‘ulcer (in the mouth)’, (B) *legar* ‘rennet’ < PDC **λwěnrχV*
 ‘pus’⁹⁶
 Bsq **lape* ‘shelter under the eaves of a shed’ > (Z) *lape* < PDC **λǎ[p̄]V* ‘flat,
 slab’⁹⁷
 Bsq **lařu* ‘skin, leather’ > (c) *larru*, (B) *narru* < PDC **Łōri* / **Łirō* ‘skin’⁹⁸
 Bsq **luř* ‘earth’ > (c) *lur* (*lurra* ‘the earth’) < PDC **Łwěgrhǎ* ‘earth’⁹⁹
 Bsq **lařä* ‘meadow, pasture’¹⁰⁰ < PDC **Ł(w)ěrV* ‘pasture, yard, fence’¹⁰¹
 Bsq **laři* ‘sad, anxious, worried’, etc. > (B) *larri* ~ PNC **Łwěrv* ‘hard, severe,

87 (BN, L) *lahar*, (AN, B, G) *laar*, (AN, G) *lar*, (Z) *nahar*, (Sal) *naar*, (R) *nar* ‘bramble, creeping plant’.

88 Andi *ǎ’oli*, Dargwa *k’a* ‘leaf’, etc. (NCED 784); PST **T-lā(k)* ‘leaf’ (STD III: #212). For the semantics of this (and the following) comparison cf. the Indo-European etymology including English *thorn*, Sanskrit *tíṇa-* ‘straw, grass’, etc.

89 Lak *č’ap’i*, Adyge *thāp*, etc. ‘leaf’ (NCED 774); Bur. **ltap* ‘leaf’ > (Y) *tap* ‘leaf’, du-*ltāpi-* ‘to wither’; (H,N) *tap* ‘petal, page’, du-*ltāpu-* ‘to wither’; PST **lāp* ‘leaf’ (STD III: #46); PY **jōpe* ‘leaf’ (SSEJ 232).

90 (B) *luban* ‘enclosure’, (BN) *lobiro* ‘farmyard, corral’, (L) *lobio* id.

91 Chadokolob *t’wi* ‘calf-stall’, Hunzib *ǎ’iber* ‘shed, hayloft’, etc. (NCED 783).

92 (B,BN,G,L) *legar*.

93 Akhwakh *ǎ’aχa* ‘ruins’, Hinukh *ǎ’iχwin* ‘cobblestone’, etc. (NCED 774); PST **T-lāg* / **T-lāk* ‘stone’ (STD III: #250); Na-Dene: Haida *ǎga*: ‘stone’ (SD 219).

94 Avar *ǎ’:er* ‘garden bed, terrace, row, rank’, Dargwa *jara* ‘furrow’, etc. (NCED 782).

95 Akhwakh *ǎ’:unu-*, Kabardian *žej*, etc. ‘to sleep’ (NCED 619); in nominal form cf. PEC **mhewǎ*, PST **miał*, Proto-Eyak Athabaskan **weł* ‘sleep’ (SD 224). Cf. LDC #124: Bsq *lo* + Sumerian *lu* ‘lie, sleep, stand’.

96 Andi *loχwo* ‘pus’, Khwarshi *χiǎ* ‘snot’, etc. (NCED 783); PST **liγ* ‘pus, abscess’ (STD III: #94).

97 Chechen *laba* ‘shed; peak of cap’, Avar *ǎ’leb* ‘stone’, etc. (NCED 777); Bur. **tāpi* ‘stone terrace’ > (H,N) *tāpi*; PST **T-lēp* ‘flat, slice’ (STD III: #234); PY **j[c]’p* ‘shovel, plank’ (SSEJ 232). Cf. LDC #151, with somewhat different comparanda.

98 Dargwa (Akushi) *guli* ‘skin, sheepskin’, Avar *ǎ’:er* ‘color’ (< ‘*skin’), etc. (NCED 789); Bur. **tar-iγ* ‘skin bag’ > (H,N,Y) *tarīγ*.

99 Avar *raǎl*: ‘earth, ground’, Lak *luχč:i* ‘earth, land’, etc. (NCED 747); PST **liγ* ‘field’ (STD III: #99), or PST **luag* ‘interior; valley; (land, field)’ (STD III: #153). It seems likely that the original PDC form was **Łwěmrhǎ* or **Łwěgrhǎ*, altered by assimilation in Caucasian.

100 (c) *larre*, (B) *larra*.

101 Avar *lol* ‘an open enclosure (for sheep)’, Archi *ǎ’oli* ‘yard, place in front of the house’, etc. (NCED 792); Bur. **ter* ‘mountain pasture, summer pasture’; PST **rāl* ‘fence, framework’ (STD II: #204).

stern¹⁰²

Bsq **lařain* ‘threshing floor’¹⁰³ < PEC **rVĹV’ / *ĹVrV’* ‘to thresh’¹⁰⁴

Bsq **lau* ‘four’ > (c) *lau, laur* < PDC **=VnĹe* ‘2/4/8’¹⁰⁵

3.b. Between vowels all PDC lateral affricates result in the cluster /řd/ - phonetically [řð] - in Basque. (See below for the developments /řt/ and /ld/.)

PDC **ĹwVřV* ‘mould, dust’¹⁰⁶ > Bsq **eřdoil* ‘rust (of plants, iron)’¹⁰⁷

PDC **=ãĹwVn* ‘to resemble, similar’¹⁰⁸ > Bsq **b-ařdin* ‘the same, equal, even, smooth’¹⁰⁹

PDC **řwēĹV* ‘a kind of grass’¹¹⁰ > Bsq **řařdo, řařda-* ‘tinder (made from fungus)’¹¹¹

PDC **=ēĹĹ* ‘half, middle’¹¹² > Bsq **eřdi* ‘half, middle’ > (c) *erdi*

PDC **HwVĹān ~ *nHāĹwV* ‘dark, blue; iron’¹¹³ > Bsq **uřdin* ‘blue’, **buřdin* ‘iron’ > (B) *urđin* ‘blue, gray’, etc., *burđiņa* ‘iron’, (L) *urđin, burđina*, etc.

PDC **čāĹwV* ‘blood, life, red’¹¹⁴ > Bsq **i-sāřdi* ‘sweat, sap’ > (c) *izerđi*, (B) *izardi*

102 Chechen *lira* ‘severe, dangerous’, Bezhta =i\aro ‘hard’, etc. (NCED 792).

103 (c) *larrain*, (B) *larrin, larren*, (R) *larren, llarne*.

104 Avar *lol*, Archi *řorom* ‘threshing board’, etc. (NCED 1031); Bur. (N) *daltán-* ‘to thresh (millet, buckwheat)’ < **rVĹVn-*.

105 Tindi *biř*:i-da ‘8’, Archi *meře* ‘8’, etc. (NCED 314); PWC **p’ř’ə* ‘4’ (CWC 395); Bur. **alt-* ‘duad’ > (H) *altó* ‘2’ (with different class forms), *wáto* ‘4’, *altámbo* ‘8’; PST **p-řij* ‘4’ > Old Chinese **s-lhij-s*, Tibetan *bži*, Thulung *bli*, Dimasa *biri*, etc. (STD III: #91).

106 Akhwakh *xali* ‘mould’, Lezgi *xwel* ‘boil, furuncle’, etc. (NCED 770); PST **T-řř* ‘dust’ > Tibetan *rdul*, etc. (STD II: #456); PY **řuřl* ‘mud’ (SSEJ 199); Na-Dene: Sarsi -\łú:, \łú: ‘to be moldy’.

107 (AN,BN,L,Z) *erđoil*, (AN,G) *erđoi*. ‘rust (of iron) in (AN,BN,L,R,Z), ‘rust (of plants)’ in (AN,G).

108 Andi *a=ř:in* ‘similar’, Dargwa (Ak.) *meřu-si* ‘similar, alike’ (< **mixV* < **b-ixVn-*), etc. (NCED 261);

PST **T-lōm* ‘be the same, accompany’ (STD III: #274); Na-Dene: Haida *łúu* ‘the same as, equal to’, Sarsi *-łu* ‘to seem’.

109 *bardin* in (B,Z), *berđin* in (G), both variants in (BN,L,R). Note the probable presence of fossilized class prefixes (*b-*, *r-*, *j-*) in several of these comparisons. Originally denoting grammatical class distinctions, they sometimes became lexicalized.

110 Chechen *jol* ‘hay’, Lezgi *weg* ‘grass’, etc. (NCED 230); PST **l[ř]wH* ‘weed’ (STD III: #157); Na-Dene: **ř’uřłw* ‘grass’ > Navajo *ř’òh*, etc. (LDC #89, with a different Bsq comparison).

111 (c) *ardai, arda-*, (L) *hardo*, (Z) *ardai*, (Alava) *erdai*, etc. ‘tinder (made from a kind of dried fungus)’.

112 Bezhta =ařo ‘middle’, =ařo-kos ‘half’, Lak =aĐli ‘half’, etc. (NCED 412); PY **řařl* ‘half, middle’ (SSEJ 178); PST **T-lāř* ‘middle, navel’ > Tibetan *lte*, etc. (STD III: #205; LDC #166).

113 Archi *nřđ-du* ‘blue’, Ubykh *wəc’wá* ‘iron’, etc. “The concept of iron being a ‘blue metal’ ... goes back to one of the earliest varieties of tempered iron (steel), which was in Greek called *kúanos* (cyan) and was dark blue in colour ...” (NCED 851); PST **nək* ‘dark, black’ > Tibetan *nag, gnag* ‘black’, etc. (STD II: #75).

114 Chechen *c’ij* ‘blood’, Avar *č’ágo-b* ‘alive’, etc. (NCED 376); PY **sur* ‘blood, red’ (SSEJ 278).

PDC *LōIV ‘neighbor’¹¹⁵ > Bsq **eřdara* /**eřdal* ‘foreign (of language)’¹¹⁶

PDC internal clusters of resonant /l,r,n,m/ + lateral affricate produce the same result in Basque as the simple affricates:

PDC **ǰǎłwV* ‘shovel, pitchfork’¹¹⁷ > Bsq **śa-řařde* ‘(two-pronged) fork’¹¹⁸

PDC **řǎłV* ‘branch, bough’¹¹⁹ > Bsq **ařda-ř* > **adař* ‘branch’ > (c) *adar*¹²⁰

PNC *=*ōrǎŮ* ‘to go, walk, enter’¹²¹ ~ Bsq **VřdV* ‘come, go’ > (B) *erdu* ‘come ye!’
(2nd pers. pl.); (Z) *orde-zü* ‘go!’ (2nd pers. sg.)

PDC **břVřǎV* ‘intestine’¹²² > Bsq **bařda* ‘belly, paunch’ > (AN-Baztan) *barda*
‘belly’, *barda*-ki ‘tripe (as food)’ (cf. Chechen *břara* ‘liver sausage’)¹²³

PDC **wHǎřǎwǎ* ‘pig’¹²⁴ > Bsq **uřde* ‘pig’ > (c) *urde* ‘(male) pig’

PDC *=*e(r)LwVř-* ‘to deceive’¹²⁵ > Bsq **lařde* > (Z) *larde* ‘apprehensive’, *larderia*
‘intimidation, fear’, etc.

PDC *=*řǎV* ‘stomach, belly’¹²⁶ > Bsq **uřdail* ‘stomach, abomasum, womb’¹²⁷

PEC **mōřLV* ‘male’¹²⁸ ~ Bsq **mařdo*, **mařdul* ‘strong, robust, fertile’¹²⁹

115 Khwarshi *\ar* ‘guest’, Chechen *l’la-7d* ‘neighbor’, etc. (NCED 790); PST **řř* ‘friend, neighbor’ (STAROSTIN, p.c.).

116 Generally, *erdera*, *erdel-* in the south and west, *erdara*, *erdal-* in the north and east of Basque Country.

117 Bezhta *äko*, Lezgi *řirf* ‘wooden shovel’, etc. (NCED 673); Bur *-(*j*)*alt-* > (H,N) *gi řǎłt* ‘spoon, scoop’; PST **řok* ‘scoop, ladle’ > Burmese *yauk*, etc. (STD IV: #320).

118 (L) *saharde*, (AN,G,R,Z) *sarde*, etc. This appears to be an old compound, of which the first element is unknown. In some dialects the word is also used for ‘dinner fork’. **ř* is a hypothetical laryngeal that results in /h/ in Lapurdi and Low Navarre, but 0 in Zuberoan. Ordinary **h* becomes /h/ in all three dialects, while in the others (AN, B,G, R) both **h* and **ř* disappear.

119 Avar *řarř*:*ěl* ‘branch, bough’, Tsez *ař*:*iru* ‘pod’, etc. (NCED 508); Bur. **řǎłtar* ‘the upper leafy branches of a tree’ > (H,N) *yǎłtar*; cf. (H,N,Y) *galtar* ‘small twig’.

120 *adar* ‘branch’ is apparently a homonym of *adar* ‘horn’ (see a separate comparison for the latter).

121 Archi *a=ři-* ‘to come’, Lak *ulu* ‘let’s go!’, etc. (NCED 422).

122 Avar *bař*: ‘intestine’, Udi *buq:un* ‘belly’, etc. (NCED 297); Bur. **bal* > (H,N,Y) *bal* ‘marrow; walnut kernel’; PST **Pik* ‘bowels’ > Mikir *phek*, Garo *bi-bik* (STD I: #12); PY **řiřil* ‘guts’ (SSEJ 250). (For Bur., ‘marrow’ is the ‘guts’ of the bone, ‘kernel’ is the ‘guts’ of the nut, quite usual.)

123 A nasal variant *marda* in (BN,R,Z).

124 Tsez *beřo*, Lezgi *wak* ‘boar, pig’, etc. (NCED 1047); PST **wǎk* ‘pig’ > Burmese *wak*, Tibetan *řhak*, etc. (STD I: #438; LDC #45, with a different Bsq comparison).

125 Chechen *lē-dan*, Ubykh *řa* ‘to deceive’, etc. (NCED 651); PST **T-lōł* ‘to miss, fail’ (STD III: #273); PY **řa(?)r(u)* ‘deceive, deceit’ (SSEJ 183).

126 Tindi *b-eř*:*u* ‘stomach, rennet, abomasum’, Archi *b-a*: ‘rennet, abomasum’, etc. (NCED 670); Bur. *=*ul* ‘belly, abdomen’ > (H,N,Y) *-ul*; PST **T-lōw* ‘belly, stomach’ > Tibetan *lto*, etc. (STD III: #284); Na-Dene: Haida *s-łáan* ‘intestines’.

127 *urdail* (AN,B,G,L) ‘stomach’, (B) ‘abomasum’, (B,G) ‘womb’; (Z) *urdai* ‘stomach’: confused with *urde* ‘pig’, *urdaki* ‘pork’, but clearly of separate origin (see above).

128 Chechen *mar* ‘husband’, Kryz *miřil* ‘male’, Archi *meřle* ‘male’, etc. (NCED 830).

129 *mardo* (Sal, R-Uztarroz, Z) ‘soft, smooth’, (B, Sal, R, Z) ‘robust, plump’, *mardul* (B-Izpazter, G) ‘vigorous, strong, exuberant / robusto, rollizo, lozano, sustancioso’, *mardul-tasun* ‘fertility, luxuriance’.

PEC *ʕānλV ‘spindle, pivot’¹³⁰ ~ Bsq *ařd-ac ‘axle, spindle’ > (c) ardatz
 PNC *r-VmλA ‘night, evening’¹³¹ ~ Bsq *b-ařT(a) ‘last night’, *b-eřd-anca
 ‘night before last’¹³²

In a minority of cases (perhaps due to different prosodic conditions) Basque has *řt rather than *řd in this position:

PDC *ʔVλwV ‘last year’¹³³ > Bsq *uřte ‘year’ > (c) urte, (BN,L,Z) urthe
 PDC *=VmλV ‘to come, go’¹³⁴ > Bsq *üřten ‘to go out, leave’ > (B) urten, (G) irten
 Burushaski *hultás ‘barefoot’¹³⁵ ~ Bsq *ořtoS ‘barefoot’¹³⁶
 PDC *wěñλV ‘beak, horn, head’¹³⁷ > Bsq *muřtu-ř > *mutuř ‘snout’¹³⁸
 PNC *mřlλV ‘husband, male, worker’¹³⁹ ~ Bsq *muřtil > *multil > *mutil ‘boy,
 servant, worker’ > (c) mutil, (R) mitil, (Z) mihil
 PEC *Łədwı ‘corn, grain’¹⁴⁰ ~ Bsq *ařto ‘millet’¹⁴¹

When the Basque word has a strong /ř/ in a syllable following or preceding the original lateral affricate, dissimilation may take either of two forms: (a) the first /ř/ is dropped (*VřdVř > *VdVř or *VřtVř > *VtVř) or (b) the cluster /řd/ changes to /ld/:

130 Bezhta, Hunzib aλ ‘spindle’, Agul ħark’il ‘pivot of a spindle’, etc. (NCED 236).

131 Avar noλ: ‘yesterday evening’, Dargwa (Ak.) dugi ‘night’, etc. (NCED 955); cf. Bur. *khú-ulto ‘today’, *b-ultú ‘day’, *alt-úl ‘2 days’, etc. > (H,N) khúulto, (Y) bultú, (H,N,Y) altúl, respectively.

132 (BN,L,R,Z) barda ‘last night’, (AN,B,G) bart id., (AN,B,G) berdantza ‘the night before last’.

133 Avar uλ’i-sa, Bezhta iλ’e, etc. ‘last year’ (NCED 225); Bur. *el-den ‘vor-vor-voriges Jahr’ > (Y) élden.

134 Avar (Chad.) t’wén- ‘to go away’, Bezhta =eλ- ‘to go, walk’, etc. (NCED 1026); Bur. *-ltá- ‘to follow, reach’, etc. > (H,N) tá- /-ltá-, (Y) tá-; PST *T-lə(H) ‘to come’ > Burmese la ‘come’, lah ‘go’, etc. (STD III: #196); Na-Dene: Haida (Alaskan) -λ’aa ‘arriving’.

135 (Y) hultás, holtás ‘barefoot’; related to *-ltá- ‘to put on (shoes, socks)’.

136 (B) ortoz, (G) ortuz, (BN,L) orthuts, etc. Cf. PEC *=ōmŁV ‘to put on (trousers, shoes)’ > Andi =iλ’:in-, etc. (NCED 861); Bur. *-ltá- ‘to put on (shoes, socks)’ > (H,N) -lta-, (Y) -ltá-; PST *luam(H) ‘shoe, boot’ > Tibetan lham, etc. (STD III: #181); Na-Dene: Navajo -λ’é, -λ’èè? ‘socks, stockings, leggings’.

137 Chechen mara ‘nose’, Avar bet’ér ‘head’, Udi bul ‘head’, etc. (NCED 1041); Bur. *-múltur ‘nostril’ > (H,N) -múltur; PST *lũH ‘head’ > Old Chinese *s-lu?, Lushai lu (STD III: # 156).

138 (B) mutur ‘snout, muzzle; end, edge’, (Z) müthür ‘snout, muzzle’, etc. A fossilized suffix *ř frequently comes into play in some of these words. It is probably to be identified with PDC *r; a plural or collective suffix.

139 Dargwa murul, murgul ‘man, husband’, Kabardian ř’ə ‘man’, etc. (NCED 826).

140 Chechen jalta, Lezgi gad ‘corn’ (grain), etc. (NCED 789). Comparison with PEC *rħəλV ‘a kind of cereal’ (wheat, oats) is also possible (NCED 950).

141 (c) arto denotes ‘maize’ in modern Bsq, while millet is now arto-txiki, arto-xehe ‘little maize’.

- a) PDC * $\lambda w\check{r}V$ ‘horn’¹⁴² > Bsq * $a-r\bar{d}a\bar{r}$ > * $ada\bar{r}$ ‘horn’ > (c) $adar$ ¹⁴³
 PDC * $\check{h}\check{a}\check{l}\check{\lambda}V$ ‘branch, bough’ > Bsq * $a\bar{r}da-\bar{r}$ > * $ada\bar{r}$ ‘branch’ (see above)
 PEC * $\check{h}mV\check{\lambda}\check{V}$ ‘thin, narrow’¹⁴⁴ ~ Bsq * $me\bar{r}da-\bar{r}$ > * $meda\bar{r}$ ‘narrow, tight’¹⁴⁵
 PDC * $w\check{e}n\check{\lambda}\check{V}$ ‘beak, horn, head’ > Bsq * $mu\bar{r}tu-\bar{r}$ > * $mutu\bar{r}$ ‘snout’ (see above)
- b) PNC * $\check{h}\check{a}m\check{\lambda}\check{a}$ ‘sweat, body fluid’¹⁴⁶ ~ Bsq * $he\bar{r}de / *he\bar{r}de-\bar{r}$ > * $helder$ ‘drivel, drool’¹⁴⁷
 PEC * $=Vr\check{\lambda}V(r)$ ‘to be scared, afraid’¹⁴⁸ ~ Bsq * $b-e\bar{r}du\bar{r}$ > * $beldu\bar{r}$ ‘fear, fright’ > (c) $beldur$, (B,G) $bildur$
 PDC * $b-\check{u}\check{\lambda}\check{V}$ ‘upper part of body (shoulder, chest)’¹⁴⁹ > Bsq * $\acute{s}o\bar{r}-ba\bar{r}da$ > * $\acute{s}o\bar{r}-balda$ ‘shoulder’ > (c) $sorbalda$

3.c. In Basque final position the few examples suggest that PDC lateral affricates merge as /l/, as they did in initial position:

- PDC * $Hiw\check{\lambda}\check{E}$ ‘to die, kill’¹⁵⁰ > Bsq * hil ‘die, dead, death’ > (c) hil , il
 PDC *(b)= $\check{V}n\check{\lambda}V$ ‘all’¹⁵¹ > Bsq * $b-il$ ‘to assemble, amass, unite’¹⁵² > (c) bil , $bil-du$
 PEC * $\chi w\check{i}\check{l}\check{E}V$ ‘clothes’¹⁵³ ~ Bsq * $oihal$ ‘cloth, fabric’ > (BN,L,Z) $oihal$, (AN,B,G,R) $oial$

In the case of a cluster of rhotic + lateral affricate, the rhotic element dominates in Basque. The same is true for the PDC cluster * $r\lambda$:

142 Avar $\lambda:ar$; Chechen kur ‘horn’, etc. (NCED 771); Bur. * $-ltur$ ‘horn’ > (H,N) $-ltur$, tur ; (Y) tur .

143 $adar$ ‘horn’ is apparently a homonym of $adar$ ‘branch’ (next comparison).

144 Chechen $nil\chi a$ ‘thin, sparse’, Hunzib λamu ‘thin, narrow’, etc. (NCED 521).

145 (AN,G) $medar$; other dialects have forms influenced by * $mehe$ ‘thin’: (BN,L,Z) $mehar$; (B,R) $mear$.

146 Tindi $hanla$, Lezgi heq etc. ‘sweat’ (NCED 509).

147 The distribution in the dialects is roughly: $herde$ (BN, L), $erde$ (AN), $helder$ (BN, L, Z), $elder$ (B, R). The words (h) $erde$, (h) $elder$ have naturally become confused and contaminated with another word for ‘drivel’: Bsq $lerde$, $lirdi$. However the latter appears to be of distinct origin ~ PEC * $\lambda w\check{i}rd\check{i}$ > Archi $\check{t} :w\check{i}t$ ‘manure, dung’, Avar x^werd ‘pus’, etc. (NCED 763; LDC #19).

148 Avar $\lambda' :er-$, Tsez $=o\check{\lambda}-$ ‘to be frightened’, etc. (NCED 1031).

149 Batsbi $bali$ ‘shoulders’; Adyge, Kabardian $p'\lambda'a$ ‘upper part of back’, etc. (NCED 313); Bur. * $-w\check{a}ld-$ ‘back’ > (H,N) $-w\check{a}ldas$, (Y) $w\check{a}ldes$; * $bal-$ ‘place between the shoulders’ > (H) $b\acute{a}lbal$, (N) $b\acute{a}bal$ (LDC #32).

150 Chechen $=al-$ ‘to die’, Bezhta $-i\check{\lambda}'-$ ‘to kill’, Adyge $\lambda'a-n$ ‘to die’, etc. (NCED 661); Old Chinese * λij ‘corpse’; Na-Dene: Haida $\lambda'a-d\acute{a}a$ ‘to kill (several)’ (LDC #130).

151 Andi $hilu-$, Chechen $-errig$ ‘all’, etc; PST * $T-l\check{a}-\eta$ ‘all, everything’; PY * $b_i\check{r}\acute{l}$ ‘all’ (SSEJ 211).

152 Here as often $b-$ appears to be a fossilized class prefix. Cf. the identical formation in PY * $b-i\check{r}\acute{l}$ ‘all’.

153 Bezhta $\chi i\lambda o$ ‘trousers, breeches’, Lak $hard:ala$ ‘cuff, trouser leg’, etc. (NCED 1081).

PNC * $\rho w\bar{o}r\lambda V$ ‘nut’¹⁵⁴ ~ Bsq **huṛ* ‘nut, hazelnut’ > (BN,L) *hur*; (Z) *hür*; (R) *ür*;
 (AN,B,G) *ur*¹⁵⁵
 PDC * $\rho\bar{i}r\lambda wV$ ‘male’¹⁵⁶ > Bsq **aṛ* ‘male’ > (c) *ar* (def. *arra*)

3.d. In PDC words that contain two liquids, or a lateral affricate and a liquid, Basque frequently has the sequence /**IVṛ**/ (most of the comparisons are repeated from above):

Bsq **luṛ* ‘earth’ < PDC * $\underline{L}w\check{e}r\check{h}\check{h}$ ‘earth’
 Bsq **luṛün* ‘steam, vapor’¹⁵⁷ < PDC * $\lambda w\check{h}\check{r}\check{V}$ ‘wind, to blow’¹⁵⁸
 Bsq **leṛa* ‘slipping, sliding; to slip, slide’ ~ PEC * $\rho V\lambda V(r)$ ‘to crawl, glide’
 Bsq **leṛo* ‘line, file, row’ ~ PEC * $\lambda w\check{a}r(\check{h})\check{o}$ ‘boundary, row, furrow’
 Bsq **laṛu* ‘skin, leather’ < PDC * $\underline{L}\check{o}ri$ / * $\underline{L}i\check{r}\check{o}$ ‘skin’
 Bsq **laṛä* ‘meadow, pasture’ < PDC * $\underline{L}(w)\check{e}rV$ ‘pasture, yard, fence’
 Bsq **laṛi* ‘sad, anxious, worried’, etc. ~ PNC * $\underline{L}w\check{e}rV$ ‘hard, severe, stern’
 Bsq **laṛain* ‘threshing floor’ < PDC * $\underline{L}Vr\check{V}$ ~ * $rV\check{L}\check{V}$ ‘to thresh’

Note also the Basque sequence /**IVhVṛ**/:

Bsq **leheṛ* ‘pine-(tree)’ > (Z) *leher*; (BN,R) *ler* ~ PEC * $\underline{L}h\check{w}at\check{u}$ ‘a kind of tree’¹⁵⁹
 Bsq **lahar* ‘bramble, creeping plant’ < PDC * $\lambda w\check{h}\check{r}\check{V}$ ‘leaf’ (see above)
 Bsq **leheṛ* ‘to burst’ < PDC * $H\check{i}\lambda w\check{V}r$ / * $\lambda\check{i}Hw\check{V}r$ ‘to burst, tear’ (see above)

And the Basque pattern /**VṛdVI**/:

Bsq **uṛdail* ‘stomach, abomasum’ < PDC * $\check{h}\check{r}\check{L}V$ ‘stomach, belly’ (see above)
 Bsq **eṛdara* / **eṛdal* ‘foreign (of language)’ < PDC * $\underline{L}\check{o}IV$ ‘neighbor’ (see above)
 Basque **eṛdoil* ‘rust (of plants, iron)’ < PDC * $\lambda w\check{V}\check{h}\check{V}$ ‘mould, dust’ (see above)

3.e. In the following examples (repeated from above) the evidence from Basque and Burushaski suggests that the original second consonant in PDC was **r*; which was

154 Ingush *bŋar* ‘nut’, Bezhta *heŋe* ‘nut, walnut’, Abkhaz *a-rá* ‘(wal-)nut’, etc. (NCED 229).

155 This word has the rolled *r* /*r̄*/, thus (in B) *urra* ‘the nut’ vs. *ura* ‘the water’.

156 Akhwakh *b-eŋ:o* ‘male’, Ingush *ärh* ‘ungelt’, etc. (NCED 210); PST **läH* ‘male, testicles’ (STD III: #9).

157 (B) *lurrin* ‘steam, vapor’, (G) *lurrin* id.; other dialects have forms without initial /*l*/: (AN,BN,L) *urrin* ‘odor, smell’, (Z) *ürrin* id.

158 Akhwakh *ŋwē / ɬoji*, Ingush *fo* ‘wind, breeze’, etc. (NCED 762); PST **lij* ‘wind’ > Burmese *liy*, etc. (STD III: #89); PY **juł-* ‘(whirl)wind’ (SSEJ 233; LDC #100).

159 Avar *V:alú* ‘yew tree’, Lak *ħalu* ‘grove’ (NCED 761); Na-Dene: Tlingit *l’él* ‘jackpine, swamp spruce’ (LDC #82).

assimilated to **l* or **ʎ* only in Caucasian. In words of this type Sino-Tibetan tends to have the sequence /rVl/, the reverse of Bsq /IV(hV)ř(V)/:

- PDC **Ľōri* / **Ľirō* ‘skin’ > Bsq **lařu* ‘skin, leather’, Bur. **ltar-* > **tar-ıŋ* ‘skin bag’, PNC **Ľōli* ‘skin, color’
- PDC **Ľ(w)ērV* ‘pasture, yard’ > Bsq **laře* ‘meadow, pasture’, Bur. **lter* > **ter* ‘mountain pasture’, PEC **ĽwěřV* ‘fence, yard’; PST **řāl* ‘fence, framework’
- PDC **Hřłwřr* / **łřHwřr* ‘to burst, tear’ > Bsq **leheř* ‘to burst’, Bur. **-ltúr-* ‘to disintegrate’, PEC **=čłwřl* ‘to burst, tear’; PST **rřř* ‘demolish, tatter’

4. Basque syllabic structures

4.1. In the following cases Basque has the structure VSCV corresponding to PDC **SV(R)CV* (where S = sibilant / sibilant affricate):

- Bsq **eřtu* ‘narrow’ > (AN,B,G) *estu* < PDC **čHVřrdV* ‘narrow, shallow’¹⁶⁰
- Bsq **ařto* ‘donkey’ > (c) *asto* ~ PWC **č(ʎ)ədə* ‘donkey’¹⁶¹; Bur. **čhardV* ‘stallion’¹⁶²
- Bsq **eřku* ‘hand’ > (c) *esku*, (Z) *eskü* ~ PEC **čəgwV* / **gəčwV* ‘arm’¹⁶³
- Bsq **eřko* ‘wax’ > (BN,G,L,Z) *ezko* < PDC **čHřxqwǻ* ‘dirt, resin’ (< **žHřxqwǻ* ?)¹⁶⁴
- Bsq **ařko* ‘much, many’, **ařki* ‘enough’ > (c) *asko*, *aski* < PDC **čHəqwř* ‘big’¹⁶⁵
- Bsq **ařka* ‘crib, manger, trough’ > (c) *aska* < PDC **čǻxqwǻ* ‘scoop, spoon’¹⁶⁶
- Bsq **ařkar* ‘strong, swift’ > (c) *azkar* < PDC **čǻ(x)qř(r)* ‘strong’¹⁶⁷
- Bsq **ořki* ‘shoe’ > (c) *oski* < PDC **řwǻqřHwV* / **qřHwǻřwV* ‘heel, ankle’¹⁶⁸

160 Dargwa *čarřa*, Andi *č:ıřir* ‘narrow’, etc. (NCED 387); Bur. **čhaq-um* ‘narrow’ > (N) *čhaq-um*.

161 Ubykh *čədə*, Abkhazian **čada*, Circassian **čʰədə* ‘donkey’ (CWC 314).

162 (H,N) *čhardá*, (Y) *čardé*.

163 Tsakhur *guD* ‘arm’, Khinalug *čigin* ‘shoulder’, etc. (NCED 448).

164 Budukh *č’uq’* ‘eye secretion’, Ubykh *č’aq’w* ‘cattle dung’, etc. (NCED 387); Bur. **čhiki* ‘musk’ > (H) *čiki*, (N) *čhiki*; cf. also PY **žik* ‘resin, pitch, tar’ (SSEJ 310); Na-Dene: PAtH **žeχř* ‘pitch, gum’ > Navajo *žééh*, etc. (SD 226; LDC #80; BENGTON 1999d).

165 Kabardian *-řx’w* ‘big’, Lak *č’q-u-* ‘many’, etc. (NCED 386); Bur. **řoq-* ‘loose, broad, roomy’ > (H,N,Y) *řoq-um*; PST **čǻk* ‘enough’ > Tibetan *čhog*, etc. (STD IV: #194; LDC #197).

166 Ubykh *č’aq’wǻ* ‘basin, tureen’, Archi *č’aq’w* ‘spoon’, etc. (NCED 332); Bur. **čřq* > (Y) *čřq* ‘sifting tray; measure of grain’, (H) *-čřq* ‘a measure of grain’, (N) *-čřq* id.; PST **[čř]k’w* ‘ladle’; PY **řřř* ‘trough’ (LDC #147).

167 Dargwa, Lak *č’aq’*, Chechen *nic’q’* ‘strength, power’, etc. (NCED 356); PST **čřk* ‘firm, hard’ > Lushai *sak*, etc. (ST IV: #68); PY **sa(?)kar-* ‘hard, stiff’ (SSEJ 270).

168 Dargwa (Ak.) *q’qř* ‘foot, leg’, Tabasaran *řaq’w* ‘heel’, etc. (NCED 926); Bur. **řoq* > (H,N) *řoq* ‘sole of

It appears that the original stem vowel was transposed in Basque, to initial position.

4.2. In the following cases PDC ***(H)r(H)VCV** has been restructured as Basque **/(H)eřC(V)/**. (Initial rhotics are not permitted in Basque.)

PDC **rVxwA* ‘cattle’¹⁶⁹ > Basque **eřgi* ‘steer, young ox’ > (c) *ergi*

PDC **rHăčV* ‘stomach’¹⁷⁰ > Bsq **fieRSe* ‘intestine’¹⁷¹

PDC **(H)rĕġwĂ* ‘a kind of rodent’¹⁷² > Bsq **eřbi* ‘hare’ > (c) *erbi*

PDC **?rVĵcwě* ‘(back) end, edge’¹⁷³ > Bsq **eřc* ‘corner, edge, border’ > (B,G) *ertz*

4.3. Note the recurrent Bsq structure **/CahaR/** corresponding to PDC **/CVRHV/**, **/HCVRV/**, or **/HRVCV/**:

Bsq **lahař* ‘bramble, creeping plant’ < PDC **łwřr?V* ‘leaf’ (see above)

Bsq **sahař* ‘old’ > (BN,L,Z) *zahar*, (B) *zaar*, (AN,G,R) *zar* ~ PNC **swěrho* ‘old, year’¹⁷⁴

Bsq **čahal* ‘calf’¹⁷⁵ ~ PEC **HčwřV* / **HřčwV* ‘heifer’¹⁷⁶

Summary

TRASK (1997: 404) has derided the Dene-Caucasian hypothesis as an “enthusiastic Hoovering up of isolates,”¹⁷⁷ and VOVIN (2002: 167) calls it an “imaginative but futile attempt of human mind” motivated by “a religious belief in macro-families” rather than by scientific rigor.

I suggest that the open-minded linguist consider whether the phonological

shoe’.

169 Avar *rexé-d* ‘cattle, herd’, Chechen *dāχni* ‘cattle’, Abkhaz *á-raχw* ‘cattle’, etc. (NCED 956); PST **riə* ‘ox, yak’ (STD II: #279); PY **tV(?)χα* ‘cow’ (SSEJ 293).

170 Andi *ručol* ‘intestine’, Abkhaz *á-ca* ‘abomasum, rennet’, etc. (NCED 339); Bur. **-rić* > (Y) *’-rić* ‘kidney’.

171 (BN,L) *hertze*, (AN,L,R) *ertze*, (Z) *ertse*, *erxe* [érše], (AN,B,G) *este*. Because the change to */řc/* was secondary, Eastern Bsq **fieřce* was not subject to the rule discussed in section 1. Western Bsq **fiešte* represents a change seen also in Eastern Bsq **bořc* / Western Bsq **bošt* ‘5’.

172 Tindi *reř’:u* ‘weasel’, Ubykh *də’wə* ‘mouse’, etc. (NCED 951); PST **ruak* ‘rat’ > Burmese *k-rwak*, Chepang *rok-yu* (STD II: #367; LDC #54).

173 Chechen *=ist* ‘edge, end’, Avar *roc*: ‘lower side, anus’, Agul *ajs* ‘bottom’, etc. (NCED 221); PST **rjet(s)* ‘hind end, behind’ (STD II: #312); PY **rəs* ‘cunnus, vulva’ (SSEJ 268).

174 Lezgi *sur* ‘old’, *jis* ‘year’, Chechen *šira* ‘old’, *šo / šera-* ‘year’, Ubykh *žwə* ‘old’, etc. (NCED 968).

175 (Z) *txahal* [čahal], (BN, L, Z) *xahal* [šahal], (B) *txaal* [Daal], (B, G) *txal* [Dal], (BN) *xal* [šal], (R) *x+l* [š+l] ‘calf’.

176 Andi *č’ora* ‘heifer’, Agul *luč* ‘heifer’, Chechen *ěsa* ‘calf’, etc. (NCED 556).

177 *Hoover* is the brand name of a common American vacuum cleaner.

patterns described in this paper, and the other non-trivial correspondences discovered by STAROSTIN, are all merely imaginary and based on coincidental resemblances, as TRASK and VOVIN claim. If so, why and how would anyone “imagine,” for example, that PDC lateral affricates become Basque /řd/ between vowels, but /l/ in initial and final position? I propose instead that recurrent correspondences of this type serve to confirm the lexical evidence that affirms the real existence of a Dene-Caucasian macro-family of languages.

I further suggest that we approach the problem of Dene-Caucasian, not as a theory to “prove” or “disprove,” but as an explanatory model, subject to constant modification and correction. In this light my colleagues and I offer Dene-Caucasian as a powerful model that helps to explain the dispersal of human beings and their cultures over Eurasia and the Americas. In details it is constantly being modified, as for example when evidence from Basque is added and compared with the existing evidence from the three families compared by STAROSTIN. We can then view the recurrent non-trivial correspondences described above as the linguistic equivalent of the replicated experimental evidence of the physical sciences.

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ABBREVIATIONS

AN	Alto Navarro = High Navarrese (Bsq dialect)
B	Bizkaian (Bsq dialect)
BN	Bas-navarrais = Low Navarrese (Bsq dialect)
Bsq	Basque = Euskara
Bur.	Burushaski
c	common (Basque), found in all or most Bsq dialects
CWC	<i>Common West Caucasian</i> (CHIRIKBA 1996)
DC	Dene-Caucasian (= Sino-Caucasian)
G	Gipuzkoan (Bsq dialect)
L	Lapurdian = Labourdin (Bsq dialect)
LDC	“Lexica Dene-Caucasica” (BLAŽEK & BENGTON 1995)
NCED	<i>North Caucasian Etymological Dictionary</i> (NIKOLAYEV & STAROSTIN 1994)
PDC	Proto-Dene-Caucasian
PEC	Proto-East Caucasian
PNC	Proto-North Caucasian
PST	Proto-Sino-Tibetan
PWC	Proto-West Caucasian
PY	Proto-Yeniseian
R	Roncalese (Bsq dialect)
SD	“Sino-Dene” (BENGTON 1994b)
SSEJ	“Srvnitel’nyj slovar’ enisejskix jazykov” (STAROSTIN 1995)
STD	Sino-Tibetan Dictionary (PEIROS & STAROSTIN. 1996)

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