

Basque and the Other Mediterranean Languages

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Dan McCall, the honoree of this issue, was deeply interested in the world around him. I did not get to know him very well, since I only saw him at ASLIP meetings and conferences, but Dan's keen curiosity about the myriad details of life, and appreciation of the patterns we find running through them, were palpable, and expressed with humility and wonderment, without any hint of bombast or pedantry.¹

In 1994 Dan and his friend Hal Fleming co-authored an article in the *Mother Tongue* (Newsletter) about the ancient languages of the Mediterranean area, including Basque and other ancient languages of Iberia. In it Dan and Hal discussed the competing hypotheses relating the Basque language to Caucasian languages on the one hand, and Afro-Asiatic (Afrasian) tongues on the other. I hope that my essay below will help to bring us closer to answering these questions.

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Václav Blažek (1991, 1992) tackled this question in his characteristically analytical method, citing 30 Basque words that, seemingly, have equally good lexical parallels in Caucasian and Afro-Asiatic (AA). He concluded with comments on eight “more or less probable hypotheses”:

1. A common [and immediate] genetic unity of Basque, Caucasian and AA.
2. A distant genetic relationship of Nostratic (incl. AA) and Sino-Caucasian (incl. Caucasian and Basque).
3. Basque is [immediately] related to Caucasian.
4. Basque is [immediately] related to AA.
5. Basque and Caucasian (or the hypothetical Mediterranean substratum related to them) influenced AA before its disintegration.
6. AA influenced Basque and Caucasian before their disintegration.
7. Basque (related to Caucasian) influenced Berber.
8. Berber influenced Basque.

Blažek tentatively concluded that options 2 and 3 were most probable at a greater time depth, and consequently options 5 and/or 6, but also that a definitive solution was far away.

So how do we decide among these possibilities? After working on this problem for decades, I can only offer my “best explanation” (Bengtson 2008c) based on a balanced assessment of morphological, lexical, and phonological evidence. Here, as elsewhere, I follow the classical methods of comparative linguistics, in which one carefully investigates the morphology

¹ A perusal of Dan's memoir *One Thing Leads to Another*, mentioned in this issue's Book Notices, will help the reader understand the background and development of this remarkable man's mind. See also Hal Fleming's tribute in this issue, pp. 1-4.

and lexis of a language, or group of languages, and looks for diagnostic patterns that link languages within a genetic group. When working with a relatively young family, like Slavic or Bantu or Malayo-Polynesian, this is quite easy for a minimally trained linguist, and even a fairly well-educated person with no linguistic schooling can detect some of the lexical and grammatical features that distinguish these families. When the time depth is greater it is necessary to employ some special tools that have been developed by paleolinguists over the centuries. Here I shall briefly summarize these methods as I understand them.

Morphology or *grammar* is the backbone of any language (except in some regions where isolating structures have developed). Thus, wherever possible, a careful comparison of morphological structures should be made, looking for cognate markers and especially for common patterns or paradigms. When the probable time depth is great one might only find fossilized remnants of paradigms (see below).

With *lexis* or vocabulary the work is also harder at greater time depths. Here we can turn to lists of the most basic lexical meanings, such as the well-known “Swadesh lists” (100-word and 200-word). To sharpen the focus even more we can use the shorter “Dolgopolsky list” and “Yakhontov list” (see below). The point is not that such words can never be borrowed – they can – but the chances of finding genuinely old words increases with the use of such lists.

The third dimension, *phonology*, can only be applied after genetic relationship is already verified by morphology and lexis. When we are confident that we have a substantial corpus of basic etymologies and a grammatical structure to hang them on, so to speak, we can then analyze the lexical material and abstract a phonological structure or system. If the elements of the phonological system of our language shows regular correspondences with those of another language, or language family, we can assume a greater probability that the systems are genetically related.

I will now apply these criteria of the genetic classification of Basque and the question of whether Basque is closer to Afro-Asiatic or Caucasian:

Morphology: On several counts the morphology of Basque is more consistent with Caucasian than with Afro-Asiatic. In nominal morphology there is no trace in Basque of the AA two-gender system with *-(a)t* as a marker of the feminine gender.² There is no grammatical gender at all in present-day Basque, but I have proposed that the existence of some apparent fossilized prefixes (**i-/e-*, **u-/o-*, **bi-/be-*,³ and perhaps others) bear witness to an earlier multi-gender/class system, and the prefixes appear to correlate with the Caucasian class markers **i-/j-*, **u-/u-*, **w-/b-*, etc. (see MCG, pp. 81-88).

While Afro-Asiatic noun case endings are typically simple and vocalic (basically alternations of the vowels *a ~ u ~ i*),⁴ the Basque case endings (ergative **-k*, dative **-i*, instrumental **-s* [orthographic *-z*], genitive **-n*, allative **-r/la*, etc.) are phonetically different from those of AA, but they have promising parallels in Caucasian, Burushaski, and Yeniseian (MCG 90-92). Additionally, Basque has compound case endings such as the directional ending **-(r)anc* as in **mendi-ranc* (UB *mendirantz*) ‘towards the mountain’ < **-ra-* + **-nc-*. Compound case endings are also common in Caucasian and Burushaski (MCG 92). I have also proposed that some Basque allomorphs can be explained as stem + fossilized oblique stem markers, with analogs in Caucasian (MCG 89-90):

² Hayward (2000: 94).

³ Each pair of prefixes appears to constitute allomorphs of the same original prefix, each with high (*i, u*) and mid (*e, o*) alternant.

⁴ Hayward (2000: 88-90). V. Blažek (p.c.) cautions: “I would add only that the AA nominal declension was richer than the *-u/-i/-a* model reflected by Classical Arabic.” For example, there is an **-s* suffix (dative?) attested widely in Afro-Asiatic (Blažek 2006).

Bsq **śu* ‘fire’ / **śu-t-argi* ‘firelight’ : cf. Hunzib *azu* ‘summer’ / gen. *az-du-s*

Bsq **oihan* ‘forest’ / **oiha-r-bide* ‘forest road’: cf. Hunzib *ǰi* ‘malt’ / gen. *ǰi-ro-s*

Number (pluralizing) is entirely different in Afro-Asiatic vs. Basque. There is no trace in Basque of the characteristic “broken” or ablaut plurals of AA.⁵ In Basque a suffix (-*Vk*) is added to the entire noun phrase, e.g. *lau gizon hauek* ‘these four men’ (*lau* ‘4’, *gizon* ‘man’, *hau* ‘this’).⁶

The most basic Basque pronouns, such as 1sg **ni* / 2sg **hi*, are quite unlike their PAA counterparts, (subject case) 1sg **?aku* / 2sg **ta* (m.), **ti* (f.).⁷ There is a purely typological similarity in that both Basque and PAA distinguish the sex of the addressee, in Basque only in the verbal agreement suffixes (*-*ga* m. / *-*na* f.), but a similar distinction is also found in West Caucasian, and in all three families the lexemes forming the pronouns are entirely different. This peculiarity, along with some lexical parallels (see below) may be attributed to a period of *Sprachbund* contact involving the ancestors of all these languages in the general region of southern Anatolia and/or northern Levant.

In verbal morphology the differences between Basque and Afro-Asiatic are also quite marked. Such typical AA features as internal ablaut and consonant gemination⁸ are entirely lacking in Basque. Like AA, Basque has a kind of “prefix conjugation,”⁹ but the prefixes in each family are entirely different:

	Afro-Asiatic ¹⁰		Basque ‘come’ (pres.) ¹¹
	Arabic ‘write’ (impf.)	Arbore ‘come’ (impf.)	
1sg	?-aktub-u	?-aačč-a	n-ator
2sg	t-aktub-u (m.)	t-aačč-a	h-ator
3sg m.	y-aktub-u	y-aačč-a	d-ator
3sg f.	t-aktub-u	t-aačč-a	
1pl	n-aktub-u	n-aačč-a	g-ato-z

In the above paradigms the only similarity might seem to be the 3sg prefixes AA **t-* ~ Bsq **d-*. However, as mentioned above AA **t* is specifically feminine, while Bsq **d-* is gender-neutral.

Lexis: As pointed out by Blažek (1991, 1992) and others before him (Gabelentz, Mukarovskiy, Trombetti, Woelfel, et al.) there are some interesting lexical parallels shared by Basque and AA languages. However, upon some investigation most if not all of them can be ascribed to the following categories: (a) specific resemblances to particular AA languages,

⁵ Diakonoff (1988: 65-66); Hayward (2000: 92).

⁶ Trask (1997: 89-90).

⁷ Blažek (1995: 37). The Bsq pronouns are more similar to the Chadic “Set A” pronouns 1sg **?an-i* / 2sg **ka(y)* (m.), **ki(m)* (f.) (ibid.), but then one would have to suppose a special closeness between Bsq and Chadic, which is not borne out by other lexical or morphological (or any historical) evidence.

⁸ Hayward (2000: 91), following J.H. Greenberg.

⁹ Hayward (2000: 90). Basque verbal morphology is mainly periphrastic, and the “synthetic conjugation” shown here is still used for only a small number of verbs (Trask 1997: 103-109, etc.). Nevertheless, the synthetic conjugation clearly reflects the ancient state of affairs.

¹⁰ Hayward (2000: 90).

¹¹ Trask (1997: 108, 281-223, etc.). The root cited here is **-toř-* ‘to come’, participle **e-toři*. *-z* is a pluralizer.

pointing to contact and borrowing (= Blažek's "hypotheses 5 & 6") rather than common genetic origin, **(b)** very old words common to AA and Basque (and Dene-Caucasian), and often to other macro-families as well (some of the evidence for Hal Fleming's Borean = Blažek's "hypothesis 2"), and **(c)** chance resemblances.

For examples of **(a)**, consider Bsq **nahaši* 'to mix, confuse, agitate', compared by Trombetti (1926) with Coptic *nehse, nehsi* 'to (a)wake(n), excite' < Ancient Egypt. *n h z y* 'erwachen, wach sein, aufwecken'.¹² Bsq **nahaši* does not have a typical Bsq verb-root structure, the latter being more spare or syncopated (e.g. Bsq **e-akin* 'to know', **e-aři* 'to set', **e-bili* 'to walk', with one or two consonants); triconsonantal verb roots are typical of Afro-Asiatic, at least in its later stages (Diakonoff 1988: p. 42ff.). There are no known Dene-Caucasian cognates of Bsq **nahaši*, and there is a close phonetic and semantic similarity with the Coptic words. Likewise with Bsq **saspi* 'seven' ~ Coptic (Sahidic) *sašfe* 'seven' (fem.) < Anc. Egypt. *s f x w*.¹³ These words attest to contact with a specific branch of AA, Egyptian, and the word for 'seven' in particular, with the change of *x* > *š*, fixes the time of contact to a late Egyptian period around the time of the Roman empire.¹⁴ On the other hand Basque **naguši* 'boss, chief', etc. looks very Semitic: cf. Ge'ez *nigūs*, Amharic *nigūs* 'king, emperor';¹⁵ Hebrew *nōgēs* 'taskmaster, oppressor', etc. (MDELV VII: 954). Contact with Semites is possible if the linguistic ancestors of the Basques came from Anatolia, as proposed later in this paper.

In category **(b)** I suggest similarities such as Bsq **agoř*, 'dry' / **egaři* 'thirst' ~ Berber: Ahaggar *iğar* / *ekkar* 'to be dry', etc.¹⁶ The Basque words have Dene-Caucasian cognates (PNC **=iḡwAr*, PY **qo(?)r₁-*, PST **kār* 'dry'), and the Berber words have widespread AA cognates (reconstructed as PAA **kVr-* = **kVr-* 'dry', according to TOB), that in turn have cognates in Altaic **k'iōbarV* 'dry' and Uralic **kujwa* 'dry' (per TOB). This 'dry', then, would qualify as a "Borean" cognate, and thus too widespread to be evidence for a close relationship between Basque and Berber. A similar example is Basque **guti* 'few, a little' ~ Berber: Ghadames *iktu* 'few', Zayan *keṭṭin* 'to be small, short', etc.¹⁷ Again the Basque word has good Dene-Caucasian cognates (e.g. Lezgi *güt'ü* 'narrow', Dargi Kaitag *kut'i-l* 'short'),¹⁸ and similar words are widespread in "Borean" (e.g. Dravidian **guḍ-* 'small': TOB).¹⁹

Let us see what happens if we focus on the most basic of the words that are cited as diagnostic for AA.

¹² Coptic and Egyptian forms after Vycichl (1983). Cf. MDELV VII: 952.

¹³ Trask (1995: 69) has ridiculed this comparison, but some other linguists that I respect have agreed with the idea that a simple borrowing between two Mediterranean languages seems far more likely than a "coincidental" match of five sequential phoneme-types (roughly, SASPE) with the exact same meaning. (Note that the Vasco-Iberian domain formerly extended to the Mediterranean coast.)

¹⁴ V. Blažek, p.c. The specific avenue of contact (Egyptian colony in Iberia?) remains to be determined.

¹⁵ *Negus*, one of the titles of Haile Selassie I, as well as of other lesser rulers.

¹⁶ Comparisons by Gabelentz and Woelfel, cited by Blažek (1992: 24).

¹⁷ Comparison by Trombetti (1926), cited also by Blažek (1992).

¹⁸ PNC **kHāṭwV̄* / **kwHāṭV̄* 'short' (NCED 690-691).

¹⁹ There was a discussion thread on MTLR earlier this year (2010) in which Michel Morvan compared Bsq *guti* with an Austronesian word (cf. Proto-Austronesian **kedi* > Paiwan *keḍi*, Waray-Waray *guti* 'small', etc.). Cf. <http://language.psy.auckland.ac.nz/austronesian/>

	PAA ²⁰	Basque	Caucasian	other DC
blood	* ʒam(?) - ²¹	* o-dol	?	PST * <i>t(h)ǎIH</i> ‘flesh’ PAE * <i>dəl</i> ‘blood’
bone	* k^was - ²²	* he(n)sūr	PEC * <i>mswīre</i> ‘rib, side’ ²³	
tongue	* lis - ²⁴	* minhi ²⁵	PNC * <i>mēlčī</i>	Burushaski * <i>jú-mus-</i>
tooth	* sin - ²⁶	* horc	Lak <i>k:arč:i</i>	< PDC * <i>kVrǝwV</i>
horn	* kar - ²⁷	* a-dār ²⁸	Avar <i>λ:ar = t̄:ar</i>	Burushaski * <i>-ltúr</i>

No words are totally immune to borrowing or replacement, but some are demonstrably more stable than others, and body part terms make up the majority of such words.²⁹ It is clear that when we examine the most basic and stable words there is little or no resemblance between AA and Basque, while Caucasian (and other Dene-Caucasian languages) show several promising matches with Basque.

The problem can be viewed from a different angle. Some years ago I remarked that the words for ‘eye’, ‘ear’, and ‘tongue’, three major organs of the head, tend to have parallel forms in many languages (Bengtson 1999). Take note of the finals in each trio:

²⁰ Afro-Asiatic is a very old family, and its vocabulary is very diverse. These “PAA” proto-forms are based on attestation in at least two of the major branches (Semitic, Berber, Egyptian, Chadic, Cushitic, Omotic).

²¹ Om + Chad + Ber + Eg + Sem: Blažek (2008: 97, no. 9.2); TOB distinguishes PAA **ʒam(?)* (Sem + Om) from PAA **ʒin-* (Ber + Eg + Chad). Cf. also PAA **dam-* Sem + Ber + Chad (+ Om?) ‘blood’.

²² Om + Cush + Chad + Ber + Sem + Eg (TOB; Blažek 2008: 97-98).

²³ Found only in Lak and Lezgian (NCED 954). The cited reconstruction **rīmswe* fits Lak *niws* ‘rib’ and Archi *bars:on* id. < **wars:wī-n*, but the other Lezgian words imply PL **s:wīra* < PEC **mswīre*; PEC has the odd cluster **msw-* also in **mswānǎ* ‘place’ (NCED 833). The meaning ‘rib’ in the outlying languages Lak and Archi suggests that they retain the original meaning, with shifts to ‘side’ > ‘part’ > ‘half’ in the other Lezgian languages. The initial **h* in Bsq (based on BNav. and Lap. *hezur*) is difficult to match with PEC **mswīre*, though perhaps the long vowel **mswīre* < **mswīHre*.

²⁴ Sem + Ber + Eg + Chad. A different root for ‘tongue’ is Om (**alib-*) + Cush (**’anrab-*) + Chad (*ariangu*, etc.): Blažek (2008: 131-132, no. 89.3); Fleming (2006: 111, 144).

²⁵ This is my modification of Michelena-Trask’s **bini*, recognizing the importance of the aspirate. **binhi* would produce the same result, though in my opinion the changes **m-* > **b-* > **m-* would unnecessarily multiply the entities (Ockham), the same point made by Starostin (1996). Jacobsen (1995: 133) supports the reconstruction **mini*, but in my opinion this can still be improved upon in order to account for the clear /h/ in northern Basque, and especially the strong fricative /ç/ heard in Baïgorry [mihçja] *mihia* ‘the tongue’ by Moutard (1975). Likewise [behçja] *behia* ‘the cow’, and others.

²⁶ Om + Chad + Ber + Sem (+ Eg?): Blažek (2008: 132, no. 90.4). TOB includes SCush **sihin-* < **hV-sin-*?

²⁷ TOB Sem + Eg + Om, though Blažek (2008: 112, no. 41.4) regards the Omotic words as borrowed from Ethio-Semitic.

²⁸ The proposed development of **adār* < **a-rdār* by dissimilation is explained, with more examples, in Bengtson (2004: 40).

²⁹ For example, Fleming (2006: 144) cites ‘eye, ear, nose, mouth, tooth, tongue, head, hair, bone, hand, knee, foot, belly, heart, blood’ as “conservative words.” S.Y. Yakhontov’s list of 35 most stable words, as cited by Starostin (1996b: 121) includes 8 of Fleming’s 15: ‘blood, bone, ear, eye, hand, nose, tongue, tooth’, plus other *body parts* ‘egg, horn, tail’, the *basic verbs and descriptives* ‘die, full, give, know, new’, *pronouns* ‘I, this, thou, what, who’, *numerals* ‘one, two’, *nature words* ‘dog, fire, fish, louse, moon, salt, stone, sun, water, wind’, and ‘name, year’.

	Gothic	Lithuanian	Mongolian	Hebrew
eye	augō	ak̃s	nidün	ʕayin
ear	ausō	auš̃s	cikin	ʔōzän
tongue	tungō	lež̃úvis	kelen	lāš̃ōn

‘Eye’ and ‘tongue’ “are two of the six most conservative items we know of,”³⁰ and ‘ear’ should figure as nearly as basic. In Basque all three are formed with the stem-vowel *-i*: **begi* ‘eye’,³¹ **be-laṛi* ‘ear’, **minhi* ‘tongue’.³² Note similar parallelisms in East Caucasian:

	Basque	Proto-Nakh (oblique stem)	Dargi (Akushi)	PNC
eye	*b(-)egi	*bʔare-	ħuli	*ʔwīlʔi
ear	*be-laṛi	*lari-	lihi	*ʔēHħi ³³
tongue	*minhi	*matt̃i-	lezmi ³⁴	*mēlč̃i

This demonstrates that Basque and the Caucasian languages share a lexical subset for these basic words, in which not only the stem vowels but the roots themselves are cognate and represent an innovation not shared by any other languages.³⁵ For a biological analogy, this lexical subset is the linguistic equivalent to the genetic markers discussed below.

Numerals: “A common Afrasian system of numerals cannot be reconstructed” (Diakonoff 1988: 67), but widespread roots for ‘two’ and ‘four’ are cited. Let us compare these with Basque and Caucasian:

³⁰ Fleming (2006: 143-144), citing the work of Aharon Dolgopolsky and Paul Black. The other four of the six are the pronouns ‘I, thou, we’ and the numeral ‘two’.

³¹ The phonological relationship between Bsq **begi* ‘eye’ and the Cauc words for ‘eye’ is not fully understood. The closeness in form of Bsq **begi* and Chechen-Ingush *bɣar-g* and Batsbi *bɣar-ḱ* ‘eye’ (where the final velars are diminutive suffixes) suggests that the **-gi* in Bsq could be the remnant of a diminutive suffix. The initial **b-* could be a fossilized class prefix, as in the Nakh words for ‘eye’ and Bsq **be-laṛi* ‘ear’.

³² According to Trombetti (1905: 105 ff.) the suffix *-i* is a primeval marker of *nomina agentis*: cf. Swahili *m-lif-i* ‘payor’ (*-lipa* ‘pay’), Beja *kātb-i* ‘writer’, Old Indic *kav-i-* ‘wise, knowing, skilful; thinker, wise man, poet’, Gothic *fisk-j-a* ‘fisher’, Finnish *anta-j-a* ‘giver’, etc.; this *-i* figures widely in the names of sense organs (‘eye’ = ‘seer’, ‘ear’ = ‘hearer’, etc.): Tamil *cevi* < **kev-i* ‘ear’, Georgian *q’ur-i* ‘ear’, *tval-i* ‘eye’, and the Lithuanian, Basque and East Caucasian words for ‘eye, ear, tongue’ cited here.

³³ The citation in NCED is **lēHle* (~ *-i*), meaning that the reconstruction **lēHli* is equally as likely as **lēHle*. It is also possible that the two **l* in PEC **lēHli* are the result of assimilation, and that the original was something like **lēHri*. Basque **be-laṛi* evidently contains the fossilized prefix **be-*, probably identical with the East Caucasian class marker **w-/*b-*.

³⁴ Metathesis < Proto-Dargi **lec:mi* ‘tongue’; the unmetathesized variant coexists in free variation in Akushi as *mez* ‘tongue’! (NCED 802). Coexistence of metathetic variants is not unusual in Caucasian: cf. Tindi free variants *lūka* ~ *ḱuta* ‘goat’ (NCED 1004).

³⁵ Burushaski shares at least two of the three words, and S.A. Starostin thought all three. The strange Bur **ltumal* ‘ear’ was derived by him from **ltul-ma*, in which the first element **ltul* corresponds to PNC **lēHli* and Bsq **-laṛi*. Thus Bur **-l-či* ‘eye’, **ltumal* ‘ear’, **ju-mus* ‘tongue’. For phonetic reasons only Bur lacks the final vowel **-i* (**-či* in **-l-či* ‘eye’ seems to be a suffix peculiar to Bur).

	PAA	Basque	Caucasian	other DC
two	* činy- ³⁶	* bi	Udi <i>p:a</i> , etc. < PNC *(t)q̄Hwā̄ ‘2’	PY * xī-na
four	* (ʔa-)far-(d-) ³⁷	* lau	Ubykh <i>pʰʁə</i> 4 < PWC * <i>p(:)əʁə</i> ‘4’ PEC * <i>būnŁe</i> ‘8’	Burushaski * <i>w-alt-</i> ‘4’ PST * <i>P-līy</i> ‘4’

The Dene-Caucasian structure with internal lateral and an (optional) labial prefix for the numbers ‘four’ and ‘eight’ is very characteristic. Burushaski has extended this stem to express 2 and its second and third powers: **altV* ‘2’ / **w-ált-* ‘2² = 4’ / **altá-mb-* ‘2³ = 8’. The Basque word **lau* ‘four’ lacks the labial prefix. So, at least for these basic numerals, Basque has much more in common with DC than with AA.

Phonology: It must be admitted at the outset that the phonological system of Basque, which is quite simple, has little obvious resemblance to the intricate phonologies of Afro-Asiatic and Caucasian. Basque lacks the trinary obstruent contrast (plain voiceless ~ ejective ~ voiced) reconstructed for both AA and Caucasian, and which can be symbolized by $T \sim T' \sim D$.³⁸ Basque, like most European languages, has only the binary contrast $T \sim D$. Both AA and Caucasian proto-languages had abundant laryngeals and pharyngeals, e.g. /ʔ h ʔ h ʕ ʕ/, while modern Basque has only /h/ (and even that is silent in the Spanish dialects of Basque). So on the surface there seems to be no reason to suppose Basque to be close to either of the families.

However, it is not the *similarity* of phonological systems that indicates relatedness, but *regularity of correspondence* between the systems. Thus, for a familiar example, the Celtic phonological system is quite different from that of Indic, but already in the nineteenth century it was shown that both systems can be derived by regular rules from the Proto-Indo-European system. Likewise, after finding significant resemblances in morphology and basic lexis between Basque and Caucasian (and other Dene-Caucasian languages), I proceeded to investigate whether or not there were any correspondences between the respective phonological systems. Based on an etymological corpus of several hundred comparisons,³⁹ I have published the results in several papers (Bengtson 2003, 2004, 2008a, 2010b). Many questions remain to be answered, but it is already clear that correspondences between the systems exist, and in general the picture is that of mergers on the side of Basque. Since Proto-Caucasian had about 48 consonant phonemes and modern Basque has about 23, this should not be surprising. The following table gives a simplified view of some of the correspondences:

³⁶ Sem + Eg + Ber (Blažek 1999: 30-31).

³⁷ Eg + Chad + Cush + Om (Blažek 1999: 32-38).

³⁸ The “emphatic” series in AA (*t', etc.) is realized in various ways in the descendant languages: glottalized, velarized, or implosive (Diakonoff 1988: 35).

³⁹ The current Basque Etymological Database on TOB consists of 611 etymologies, not all of which have external cognates thus far.

Proto-Caucasian	Basque	sample etymologies ⁴⁰	
		PNC	Basque
q	k	*=HīqV(r) 'to pull, take out; drag, carry'	*ekārī 'to bring, produce', etc.
q'			
k'		*q̄idV 'soot, dust'	*kedar̄ 'soot'
		*kwĩnhV 'smoke'	*(e-)kee 'smoke'
k	h	*kiŭ 'farmstead, hut'	*huri 'village, town'
x			
χ		*xwĩmçwī 'marsh, bog'	*i-hinc 'dew'
h		*χāiV 'thread, sinew'	*ha[li] 'thread, wire'
ħ		*h[ā]ħa 'steam, breath'	*haro 'weather, season'
		*ħwārçē 'ridge; boundary'	*hegi 'ridge, border', etc.

In my model these particular eight PNC phonemes correspond to only two in Basque.

An important part of the Proto-Caucasian (and Proto-Dene-Caucasian) phonological system was a rich array of laterals: the affricates **ɬ*, **ɬ̣*, **ɬ̥*,⁴¹ the voiceless fricative **ɬ*, and the resonants **l* and **l̥*.⁴² If Basque is related to Caucasian, there would have to be clear correspondences to the laterals. My research into this has revealed some very interesting patterns.

In non-medial positions (initial and final position) all six PNC laterals correspond with the lone Basque lateral, resonant /l/. One example of each is shown here (extensive examples are cited in MCG and Bengtson 2004):⁴³

[resonant <i>*l</i>] PNC <i>*lhēmŁwĩ</i> 'earth, ground'	~ Bsq <i>*luř</i> 'earth, ground' ⁴⁴
[resonant <i>*l</i>] PEC <i>*lamV</i> 'licking; to lick'	~ Bsq <i>*lami-ka-</i> 'to lick'
[fricative <i>*ɬ</i>] PEC <i>*Łwirdi</i> 'manure; pus'	~ Bsq <i>*lirdi</i> 'drivel, saliva'
[affricate <i>*ɬ̣</i>] PEC <i>*ɬ̣HwemV</i> 'liquid' (adj.)	~ Bsq <i>*limuri</i> 'moist, humid, slippery', etc.
[affricate <i>*ɬ̥</i>] PNC <i>*ɬ̥wřrHV</i> 'leaf'	~ Bsq <i>*lahař</i> 'creeping plant, bramble'
[affricate <i>*ɬ̥</i>] PNC <i>*Łöli</i> 'color, skin'	~ Bsq <i>*lařu</i> 'skin, hide, leather'

⁴⁰ Each correspondence is based on multiple etymologies. The details (attested Basque and Caucasian words) are found in MCG and/or in the Basque Etymological Database on TOB.

⁴¹ The lateral affricates **ɬ*, **ɬ̣*, **ɬ̥* (in Nikolaev & Starostin's transcription) may also be represented as /tʰ/, /tʰʰ/, /dʰ/, respectively. In some parts of East Caucasian they are *velarized*, thus more like /kʰ/, /kʰʰ/, /gʰ/, respectively. They are clearly to be analyzed as unit phonemes, not clusters.

⁴² The exact phonetic value of PNC **l* is uncertain. It may have been a back (velar) lateral.

⁴³ There are fewer examples of the final reflex **-l*. See Bengtson (2004-40-41) for some of them.

⁴⁴ Assimilation and/or dissimilation has apparently taken place on one side or both.

In medial position we find a multiplicity of Basque reflexes. In general, PNC **l* and **ʎ* correspond to Bsq **-r-*, PNC **λ* to Bsq **-lh-*, and all three PNC lateral affricates correspond to the clusters **-rd-* or **-rt-*:⁴⁵

[resonant <i>*l</i>] PNC <i>*ǵǧhlV</i> ‘bitter’	~ Bsq <i>*kerać</i> ‘bitter, sour, stench, stink’
[resonant <i>*ʎ</i>] PEC <i>*χāʎV</i> ‘thread, sinew’	~ Bsq <i>*hari</i> / <i>*hal-</i> ‘thread, wire’ ⁴⁶
[fricative <i>*λ</i>] PEC <i>*λwɪndV</i> ‘firewood, wood’	~ Bsq <i>*i-lhenti</i> ‘firebrand, ember’
[affricate <i>*ʎ</i>] PNC <i>*=ǵǵwVn</i> ‘to resemble, similar’	~ Bsq <i>*b-ardin</i> ‘the same, equal, even,’ etc. ⁴⁷
[affricate <i>*ʎ</i>] PNC <i>*=ǧǧĚ</i> ‘middle, half’	~ Bsq <i>*erdi</i> ‘middle, half’
[affricate <i>*ʎ</i>] PNC <i>*çāʎwV</i> ‘blood; life’	~ Bsq <i>*i-sārdi</i> ‘sweat, sap’ ⁴⁸

The Basque intervocalic development of lateral affricates, which may be symbolized as TL > RT, is parallel with the Burushaski development symbolized as TL > LT, for example Bur. **jult* ‘time, right moment’, corresponding to Bsq **ordu* ‘time, hour, occasion’; Bur. **-múltur* ‘nostril’ corresponding to Bsq **mutuṛ* < **murtuṛ* ‘snout, muzzle’, etc.

The “Chronological Problem”

Some of the resistance (perhaps indeed, *most* of the resistance) to accepting demonstrable relationships between Basque and other languages is the assumption by many that the Basque language as we know it is a lineal descendant of the language spoken by the original Upper Paleolithic (Aurignacian, etc.) settlers of Iberia and Aquitania some thirty millennia ago. If this were so, one would hardly expect to find recognizable lexical or grammatical cognates between Basque and any other language, or at least not to the extent claimed by me in these pages.

I suggest instead that there is no reason to assume uncritically that the Basque language has to represent an unbroken tradition since Paleolithic times. We know of many documented examples of language replacement, for example in the Middle East, where many local languages (Sumerian, Semitic and other) were overlaid first by Aramaic and later by Arabic. In Europe many languages were submerged by Latin in a similar way, and so on. On Basque I follow no less an authority than the great vasconist René Lafon,⁴⁹ who posited that the people of the Basque Country and Aquitania adopted a foreign language from an immigrant population who brought a technologically superior culture.⁵⁰

⁴⁵ These clusters are realized phonetically in Bsq as [rð] and [rt], respectively, with a strong trilled rhotic (Hualde 1991). For more examples of the **-rt-* reflex, as well as **-rd-*, see Bengtson (2004: 40).

⁴⁶ Bsq **hari* has a stem variant **hal-*, as in **haliko* ‘ball of string’, betraying the lateral origin of this /r/. Several other Bsq words show this kind of alternation (MCG 75).

⁴⁷ The initial **b-* appears to be a fossilized class marker, seen also in other adjectives and adverbs like **b-arda* ‘last night’, **b-ehe* ‘below’, as well as in nouns: **be-laṛi* ‘ear’, **be-lduṛ* ‘fear’, and many others.

⁴⁸ For the semantics, cf. Old English *swētan* ‘to sweat, to bleed’, likewise in other old Germanic languages: Old Icel. *sveiti* ‘sweat, blood’, etc.

⁴⁹ Even Trask (1997: 55, 65, etc.) praised Lafon as a “distinguished vasconist” who was “cautious almost to a fault” and who analyzed Basque with “clarity and scrupulousness.” Lafon differed from Trask and Michelena in that he accepted the relationship of Basque with Caucasian, though he did not separate Kartvelian from (North) Caucasian: “La parenté du basque et des langues caucasiques . . . peut être aujourd’hui tenue pour certaine” (Lafon 1949: 200).

⁵⁰ “La langue basque n’est pas une langue indigène, autochtone; c’est une langue d’origine étrangère, d’adoption . . . d’une civilisation supérieure par certains côtés à la leur propre . . .” (Lafon 1949: 206).

Lafon identified this culture with copper-using, megalith-building immigrants near the end of the third millennium BCE.⁵¹ After conferring with an archeologist colleague, Peter Rowley-Conwy, I agree with the latter that a likelier candidate is the much earlier Cardial Culture, which arrived on the eastern Spanish coast around 5500 BCE.⁵² Recent archeological evidence suggests that the Cardial people, originally from Anatolia, arrived by boat from Italy by means of ‘leapfrog’ colonization round the South French coast. The name Cardial refers to *Cardium edulis*, a mollusk whose shells imprinted their clay artifacts. Besides the characteristic ceramics, the Cardial Culture included what the archeologists call a complete “Neolithic package” of cultural traits, including the use of domesticated plants and animals, and long distance trade of obsidian and other lithic material (Price 2000; Zapata et al. 2004; Peña-Chocarro et al. 2005).

The inhabitants of the Basque Country probably did not adopt the new culture and language directly from the Anatolian immigrants on the coast, but more likely via a chain of several intermediate cultures, in what Rowley-Conwy (forthcoming) calls ‘lurches of advance’ (rather than a ‘wave of advance’). By the time these ‘lurches of advance’ reached the Basque Country the Neolithic culture and its concomitant Dene-Caucasian language were acquired from neighbors who were, like them, mainly of native European genetic descent.

The following comparisons reflect terms for domesticated animals (large and small cattle, swine) shared by Basque⁵³ and Caucasian⁵⁴ (+ Burushaski).⁵⁵

- Basque **behi* ‘cow’⁵⁶ = Cauc: Avar *bóc’i* ‘cattle’, Andi *buc’ir* ‘cattle’, etc.⁵⁷
- Basque **sesen* ‘bull’⁵⁸ = Cauc: Chamalal *zin* ‘cow’, Tindi *zini* ‘cow’, etc.⁵⁹ = ? Burushaski **chindár* ‘bull’
- Basque **ergi* ‘steer, young ox, bull calf’⁶⁰ = Cauc: Avar *rexé-d* ‘cattle, herd’, Abkhaz *á-raχwə* ‘cattle’, etc.⁶¹
- Basque **čahal* ‘calf, heifer’⁶² = Cauc: Avar *šačár* ‘heifer’, Tindi *čara*, Agul *luč*, etc.⁶³ = Burushaski **chulá* ‘male breeding stock’ (buck goat, drake).

⁵¹ The date given by Lafon, late third millennium BCE, “was the date for megaliths as understood in the 1950s, before the advent of radiocarbon dating. The revised date for that horizon is now somewhere around 4000-4500 BC” (P. Rowley-Conwy, p.c.).

⁵² The “Impressa,” the earliest wave of farmers getting to eastern Spain, now looks as early as 5800 BC, according to Jean-Denis Vigne (P. Rowley-Conwy, p.c.).

⁵³ My version of the reconstruction of Proto-Basque (Bengtson 2003, 2004, 2008a, 2010b) is cited, with some of the dialectal forms and/or Unified Basque (UB = *euskara batua*) forms in footnotes.

⁵⁴ A selection of attested Caucasian forms is cited, with the PNC, PEC, or PWC reconstruction in footnotes.

⁵⁵ Naturally, Burushaski and Caucasian share some terms of these types that are not found in Bsq. See Bengtson (2001).

⁵⁶ BN L *behi*, Z *béhi*, B G AN R *bei*. The change of internal resonant + affricate clusters such as **-lc’-*, **-lč’-*, **-rc’-*, **-rč’-* to medial Basque **(n)h-* in words with final *-i* such as **minhi* ‘tongue’, **inhi* ‘rush (plant)’, **behi* ‘cow’, **bihi* ‘grain’ is regular, and probably implies the intermediate stages **(n)š-* > **(n)x-* (Bengtson 2004: 36). The reflex with a nasal occurs when the original cluster had a lateral, i.e. **-lc’-*, **-lč’-* > **-nš-* > **-nx-* > **-nh-*; the reflexes of the rhotic clusters **-rc’-*, **-rč’-* lack the nasal component.

⁵⁷ PEC **bhərçwV* ‘cattle’ (NCED 296).

⁵⁸ UB *zezen*, diminutive *xexen* /šešen/ ‘torito’.

⁵⁹ Proto-Avar-Andian **zin-HV* (NCED 262-263).

⁶⁰ UB *ergi* [eřyi]. The change of the PDC structure **(H)r(H)VCV* > Bsq (H)erC(V) is regular (Bengtson 2004: 42).

⁶¹ PNC **rVxwV* ‘cattle’ (NCED 956).

⁶² BN L *xahal* [šahal], Z *xáhal* [šáhal], R *xâl* [šâl], B *txaal* [čaal], etc. Evidence is ambiguous for nasality in Bsq (only in R: cf. the footnote to Bsq **ahari* ‘ram’, below).

⁶³ PEC **HčwīlV* ~ **HlīčwV* ‘heifer’ (NCED 556).

- Basque **a-huina* ‘kid’⁶⁴ = Cauc: Andi *kun* ‘ram’, Tsakhur *kuwar* ‘young goat’, etc.⁶⁵
- Basque: **bil-doč* ‘lamb (that has begun to feed itself), yearling’⁶⁶ = Cauc: Bezhta *biλ* ‘sheep’, Chechen *bož* ‘he-goat’, etc.⁶⁷ = Burushaski **bélis* ‘sheep (of 2 years or more); ewe that has given birth’.
- Basque **ahari* / **ahal-* ‘ram’⁶⁸ = Cauc: Hunzib *χor* ‘ram’, Chadokolob *her* ‘ewe’, etc.⁶⁹
- Basque **siki-ro* ‘castrated ram’; **siki-te* ‘castrated goat’⁷⁰ = Cauc: Andi *c’:ek’ir* ‘kid’, Lak *c’uku* ‘goat’, etc.⁷¹ = Burushaski **chigir* ‘(she-)goat’.
- Basque **urde* ‘pig, hog, swine’, **ord-oč* ‘boar’⁷² = Cauc: Hunzib *buλu* (*but’u*) ‘boar, pig’, Archi *bəλ*: id., etc.⁷³

Note also the related terms:

- Basque **eSene* ‘milk’⁷⁴ = Cauc: Godoberi *š:īwu* ‘milk’, Chechen *šin* ‘udder’, etc.⁷⁵ = Burushaski **šij* ‘milk’.
- Basque **e-aici* ‘to milk’⁷⁶ = Cauc: Lezgi *ac:a-* ‘to milk’, Chechen = *ēt* id., etc.⁷⁷ = Burushaski **čáo* ‘to milk’.
- Basque **gurhi* ‘1 butter, 2 fat, grease, 3 juice’⁷⁸ = Cauc: Lezgi *veri* ‘butter’, Tsez *χuri* ‘piece of dry cheese’, etc.⁷⁹

The following comparisons attest to shared vocabulary of grain and pulse crops in Basque and Caucasian (+ Burushaski):

⁶⁴ *Z ahūñē*, BN *ahuña*, R *añe*.

⁶⁵ PEC **kwīzni* ‘ram’ (NCED 710).

⁶⁶ UB *bildots*. Apparently an old compound **bil-doč* in which the second element is obscure.

⁶⁷ PNC **bhāλwī* ‘small cattle’ (SCCG, NCED 293).

⁶⁸ The stem variant **ahal-* occurs in words such as AN *aal-zain* ‘shepherd’. The presence of nasality in Zuberoan *āhāri*, *āhāy* is usually thought to require an original nasal: “Una antigua *n* intervocálica puede restablecerse con mayor o menor probabilidad por ejemplo en sul. *āhā(r)i* ‘carnero’, b.-nav., lab. *ahari*, [etc.]” (Michelena 1961: 303). So Trask (2008), who posits **anari* “or conceivably . . . **anali*.” Rather strangely Roncalese *āri* lacks the nasal, which suggests to me that there may be other factors in play than hypothetical nasal sonants in creating Bsq nasal vowels (cf. the note to Bsq **čahal* ‘calf, heifer’, above).

⁶⁹ PEC **χ[ə]rV* ~ **χ[ə]lV* ‘ewe, ram’ (NCED 1071). All attested forms have *-r-*, but *-r-* in Andian and Tsezian can come from either PNC/PEC **r* or **l*.

⁷⁰ UB G AN *zikiro*, BN L *zikhiri*; BN (Hazparren) *zikite*.

⁷¹ PNC **zīkV* / **kīzV* ‘kid, goat’ (SCCG, NCED 1094).

⁷² UB *urde*. See above (Phonology) for the regular correspondence of Bsq **-rd-* to PNC **-λ-* (and other lateral affricates) in intervocalic position. The development of the initial may have been **burde* > **urde*, since the usual Bsq correspondence to PNC **w* is **b* (MCG 75-76; /b/ also in most Cauc langs.). **ord-oč* < **urde* + **oroč* ‘male’ (Trask 2008).

⁷³ PNC **wHārλwə* ‘boar, pig’ (SCCG, NCED 1047).

⁷⁴ B G L BN *esne*, AN *esene*, *ezne*, R *ezne*, Z *eznē*, with uncertainty whether the original sibilant was **s* (orthographic *z*) or **š* (orth. *s*) (Michelena 1961: 163, 352, 401). The external comparanda would favor **š*.

⁷⁵ PNC **šām?V* ‘milk, udder’ (SCCG, NCED 982).

⁷⁶ Z *jaitzi*, AN *jetzi*, *deitzi*, BN L *deitzi*, etc. The initial *d-* is thought to be secondary (Trask 2008; Michelena 1961: 184).

⁷⁷ PNC **=āmzU* ‘to milk; to drink’ (SCCG, NCED 262-263).

⁷⁸ Z *gurhi*, *gorhi* 1, 2, BN G *guri(n)* 1, 3, etc. Other forms show a progression from **gu-* > *bu-* (AN G *burīñ* ‘custard’) > *u-* (R L Z *urin* ‘fat, grease’: MDELV V: 845).

⁷⁹ PEC **χərHV* ~ **χHərV* ‘butter, cheese’ (NCED 1071).

- Basque **gari* / **gal-* ‘wheat’⁸⁰ = Cauc: Tindi *q’eru*, Lezgi *q:ül* ‘wheat’, etc.⁸¹
- Basque **(gara-)gaṛ* ‘barley’⁸² = Cauc: Rutul *q’ir* ‘winter wheat’, Agul *q’ir ~ q’ur* ‘grain’⁸³ = Burushaski **gur* ‘wheat’.
- Basque: **bihi* ‘grain, seed, kernel’⁸⁴ = Cauc: Godoberi *beč’in* ‘rye’, Tindi *beč’in* ‘barley’, etc.⁸⁵
- Basque **sikirio* ‘rye’⁸⁶ = Cauc: Rutul *sik’ıl* ‘rye’, Khinalug *sılḡ-li* ‘rye’, etc.⁸⁷
- Basque **olho* ‘oats’, **alho* ‘wild oats’⁸⁸ = Cauc: Kabardian *xʷə* ‘millet’ < PWC **λwə id.*⁸⁹
- Basque **arto* ‘maize’ (earlier ‘millet’) = Cauc: Avar *roλ:* ‘wheat’, Agul *jerg* ‘oats’, etc.⁹⁰
- Basque **ilha-ṛ* ‘vetch, peas, beans’⁹¹ = Cauc: Tsez *hil* ‘pea(s)’, Avar *holó* ‘bean(s)’, etc.⁹²

Most impressive, in my opinion, is a whole suite of Basque agricultural terms, involving soil tilling and preparation, harvesting, threshing, sifting, and grinding, that have close Caucasian and Burushaski counterparts:

⁸⁰ The stem variant **gal-* shows up in compound words such as UB *gal-buru* ‘head of wheat’, *gal-bahe* ‘sieve’, etc.

⁸¹ PEC **Cōlʔe* ‘wheat’ (SCCG, NCED 462-463).

⁸² Here only the second element (with trilled /ṛ/) is being compared with the following words, since the first element (with flapped /r/) seems to be identical with the root for ‘wheat’ **gari* / *gal-*.

⁸³ PEC **q[ə]rV* ‘a kind of weed, (wild) cereal’ (SCCG, NCED 915). The Cauc comparanda cited by Uhlenbeck, Hubschmid, et al. (Lezgi *gerger*, Tabasaran, Tsakhur *γaryar* ‘oats’, etc., in MDELV V: 22-23) are “phantom cognates,” since the velars derive from lateral affricates: Proto-Lezgian **λ:arλ:ar* ‘oats’ < PEC **rħəλV ~ *λħərV* ‘a kind of cereal’ (NCED 950).

⁸⁴ BN L Z *bihi*, AN (Baztan) *bigi* [biyi]. For phonology of the internal consonant comparison, see the note to Bsq **behi*, above.

⁸⁵ PEC **bhēlč̣i-nV* ‘a kind of cereal’ (NCED 294).

⁸⁶ Based on western Bsq: B G *zikirio* ‘rye’. Trask (2008) lumps these together with Bsq *zekale*, *zekhale*, *zekele*, *zekela*, the predominant word for ‘rye’ in eastern Bsq, which has a clear antecedent in Latin *sēcāle*, Catalan *segol*, etc. (REW 7763). The peculiar phonetics of western Bsq **sikirio* makes derivation from Lat. *sēcāle* less likely, but the whole comparison is problematic from the Caucasian side as well: see the following note.

⁸⁷ This comparison is problematic, since NCED (964-965) derives these words from PEC **sūli* / **sūsūli* ‘a kind of cereal’ (‘rye’ in Chechen, Lak, Dargi, and Lezgian). The Rutul, Tsakhur, and Khinalug words imply the addition of a diminutive suffix, and then metathesis (PL **s:ol-Vk̄ > *s:okol*). For the comparison with Basque to be valid we would require a parallel process in pre-Basque. See also the preceding note.

⁸⁸ According to the archeologists oats and millet were not part of the original Cardial “package,” but were added centuries later. This comparison could then reflect the substitution of a newer meaning for an older word, as happened for example when Bsq used the old word for ‘millet’, *arto*, for the new crop maize imported from America (Trask 1997: 307); cf. the familiar example of English *corn*, adapted by American English speakers to mean ‘maize’.

⁸⁹ PNC **λwəʔwV* ‘millet’ (SCCG, NCED 763-764).

⁹⁰ PEC **rħəλV ~ *λħərV* ‘a kind of cereal’ (NCED 950).

⁹¹ BN L Z *ilhar*, AN G *ilar*, B *irar*, *idar*. Meanings depending on dialect: Z has, for example: *ilhar* ‘bean(s)’, *ilhar-biribil* ‘peas’, *ilhar-xuri* ‘peas’, etc. We assume a phonetic change of the type **hilaṛ > *ilhaṛ*. Cf. Basque (L) *ilhargi* ‘moon’ < **hil-* + **argi* (Trask 1997: 161).

⁹² PEC **hōwl[ā]* ‘bean(s), lentil(s)’ (NCED 493).

- Basque **laia* ‘two-pronged fork (used for loosening and turning soil)’⁹³ = Cauc: Bezhta *λaχ-dami* ‘rake’, etc.⁹⁴
- Basque **haincuř* ‘hoe, spade’⁹⁵ = Cauc: Chechen *āsta* ‘hoe, mattock’, Akhwakh *Ʒerc:e* ‘wooden plow’, etc.⁹⁶ = Burushaski **harš* ‘plow’
- Basque **arhe* ‘harrow’⁹⁷ = Cauc: Avar *Ʒār-ize* ‘to harrow’, Lezgi *Ʒar* ‘harrow’, etc.⁹⁸
- Basque **lařain* ‘threshing floor’⁹⁹ = Cauc: Archi *λorom* ‘threshing board’, Andi *loli* ‘threshing, threshing floor’, etc.¹⁰⁰ = Burushaski **daltán-* ‘to thresh’ < **rVĹV-n-*.
- Basque **bahe* ‘sieve’¹⁰¹ = Cauc: Tsakhur *wex:^wa* ‘sieve’, Lak = *łhi-* ‘to filter’, etc.¹⁰²
- Basque **eiho* ‘to grind’ / **eihera* ‘mill’¹⁰³ = Cauc: Chechen *ah-* ‘grind’ / *her* ‘mill’, Ingush *hajra* ‘mill’, Lak *ha=a-* ‘grind’ / *hara-qalu* ‘mill’, etc.¹⁰⁴ = Burushaski **-hor-* ‘to grind’.

The linguistic evidence presented here indicates that the western Dene-Caucasian speakers of ca. 7500 years ago (linguistic ancestors of the present-day Basques, North Caucasians, and Burushos) had a well-developed Neolithic pastoral-agricultural culture, including the husbandry of large and small cattle and the cultivation and milling of cereal grains and some other crops such as pulses.

How do we know that the Basques did not simply adopt these Dene-Caucasian Neolithic terms as loanwords, while retaining the rest of their original language intact? In fact the Neolithic terms have the same phonology and morphology as the most basic parts of the Basque lexicon. For example, in Basque **olho* ‘oats’ = PNC **łwřwV* ‘millet’ we see the same correspondence of Basque aspirated lateral (**łh*) to PNC lateral fricative (**ł*) as in Basque **e-lhu-ř* ‘snow’¹⁰⁵ = PEC **jřwłV* / **łřwV* ‘snow’, and ‘snow’ can hardly be considered a cultural

⁹³ Source of Spanish *laya* with a similar meaning (Trask 1997: 418 [with doubt]; cf. MDELV VII: 34-35). In initial position PNC **χ* corresponds to Bsq **h*, but between vowels there are few examples. It is possible that the protoform should be **laHia*.

⁹⁴ PEC **łVχwV* ‘rake’ (NCED 781-782).

⁹⁵ L *haintzur*, Z *háitzür*, R *aintzur*, AN G *aitzur*, B *atxur* [ačur], etc.

⁹⁶ PNC **Hrāǰcū* ‘wooden plough, mattock’ (NCED 601).

⁹⁷ BN L Z *arhe*, AN B G *are*.

⁹⁸ PEC **ƷarhV* (NCED 477).

⁹⁹ AN G L Z *larrain*, R *larren*, *llarne*, B *larren*, *larrin*, etc.

¹⁰⁰ PEC **=VřĹV* ‘to thresh’ (SCCG, NCED 1031-1033).

¹⁰¹ BN L Z *bahe*, AN (Baztan) *bage*, B G *bae*. The supposed derivation of Bsq **bahe* from Lat. *vannus* ‘winnowing tray’ (Trask 2008; and see the long discussion in MDELV III: 149-150) is phonologically impossible. There is no trace of nasality in the Bsq vowels, and there is no evidence of a Romance form **bane* supposed by Trask. See REW #9144.

My interpretation of the Bsq word is **b-ahe*, i.e., a nominal derivative of a verb cognate with PNC **=ifV* ‘to sift’ with the fossilized class prefix **b-* (MCG 81-88). In formation it is parallel to the proposed Tsakhur cognate *wex:^wa* ‘sieve’, compared with the Bsq word long ago by K. Bouda.

¹⁰² PNC **=ifV* ‘to sift’ (NCED 630). Tsakhur *wex:^wa* ‘sieve’ is a nominal derivative with formation parallel to Bsq **bahe* (see the preceding note).

¹⁰³ BN L *eho* / *eihara*, B *eio*, etc.

¹⁰⁴ PEC **HěmχwV* / **χHwěřV* ‘to grind’ / ‘mill(stone)’ (SCCG, NCED 559-561).

¹⁰⁵ BN L *elhur*, Z *éłhür*, AN G R *elur*, B *erur*, *edur*. The final in Bsq **e-lhu-ř* ‘snow’ appears to be the same **-ř* that occurs in many other Bsq words: e.g. **hai(n)cu-ř* ‘hoe, spade’, **ilha-ř* ‘vetch, peas, beans’, and can be compared with the PNC plural suffix **-r* (MCG 88-89).

word that is easily borrowed.¹⁰⁶ Likewise, the phonological relationship between Basque **behi* ‘cow’ and Andi *buc’ir* ‘cattle’ is parallel to that of Basque **minhi* ‘tongue’ = Andi *mic’i* ‘tongue’,¹⁰⁷ one of the most basic words in any language. Morphologically, the relationship between Basque **eiho* ‘to grind’ (verb) and **eihera* ‘mill’ (noun) is the same as that between Ingush *añ-* ‘to grind’ and *hajra* ‘mill’. The Basque allomorphs seen in **ahari* / **ahal-* ‘ram’ and **gari* / **gal-* ‘wheat’ are entirely parallel to those of the basic **heugari* / **heugal-* ‘abundant, copious’ / ‘to increase, multiply’ (cf. Tsez =*exora* ‘long’, Akushi *χala-l* ‘big’, etc. < PNC **HāχulV* / **HālχV* ‘long, big’), and so on. In other words, there is no linguistic reason to suppose that Basque words for domestic animals, cultivated plants, and food-processing belong to a different or later layer than the most basic words (e.g., words for ‘blood, bone, tongue, tooth, horn’, etc.) discussed above (page 161).

In archeogenetics recent results have tried to answer the important question of whether the Neolithic and farming came to Europe mainly through *demic diffusion* (or ‘wave of advance’ = population replacement) or by *cultural diffusion* (borrowing), or a combination of both. Calderón, et al. (1998), who analyzed immunoglobulin allotypes, represent the former view:

Our results do not support the hypothesis that the Basques are a relict population of ancient Europeans. They might be the consequence of the colonization of the Basque area by a long-distance migrating group, probably a small Neolithic North Caucasian population that introduced agriculture to the region. They experienced early, rapid demographic growth, and they did not breed with the few hunter-gatherers wandering throughout the area. The North Caucasian migrants could have admixed with North Asian groups dating from many centuries before.

In broad agreement with this, Chikhi, et al. (2002), who analyzed Y-chromosome data, conclude that “local huntergatherers contributed less than 30% in the original settlements . . . the genetic contribution of Neolithic farmers [to the European gene pool] had to be between 65 and 100% . . . Despite some reports of its demise, the original [demic diffusion] model proposed by Ammerman and Cavalli-Sforza [1984] is more alive than ever.”

On the other hand Semino, et al. (2000),¹⁰⁸ in a Y-chromosome study, find that

Haplotypes Eu4, Eu9, Eu10, and Eu11 represent the male contribution of a demic diffusion of farmers from the Middle East to Europe.¹⁰⁹ The contribution of the Neolithic farmers to the European gene pool seems to be more pronounced along the Mediterranean coast than in Central Europe. . . . Analyses of mtDNA sequence variation in European populations . . . suggest that the gene pool has ~80% Paleolithic and ~20% Neolithic ancestry. Our data support this observation because haplotypes Eu4, Eu9, Eu10, and Eu11 account for ~22% of European Y chromosomes.¹¹⁰

¹⁰⁶ For example, the Proto-Indo-European word for ‘snow’, **sneigʷh-*, persists after millennia in most of the western IE languages, e.g. Welsh *nyf*, French *neige*, Swedish *snö*, Lith. *sniėgas*, Russian снег, etc.

¹⁰⁷ For the correspondence of Bsq **(n)h-* to the PNC clusters **-lc’-*, **-lč’-*, **-rc’-*, **-rč’-*, see the footnote to Bsq **behi* ‘cow’, page 166.

¹⁰⁸ A collaboration of seventeen scholars with the prominent inclusion of L.L. Cavalli-Sforza (see the complete list under References).

¹⁰⁹ These haplotypes have different designations in the standardized terminology (“YCC” 2002). For example “Eu9” corresponds to J2 in Soares, et al. (2010).

¹¹⁰ B. Comrie gives us this caveat: “All investigations I’m aware of that argue that a certain percentage of Paleolithic genes survive into modern European populations, including the oft-cited Semino et al. [2000] paper . . . ASSUME that the Basques (and some other populations, e.g. the Sardinians) are remnants of Paleolithic populations, and then use this assumption to calculate the percentage of Paleolithic genes elsewhere in Europe – often with very different results (cf. Chikhi, et al. [2002] for percentages very different from those of Semino, et al.). These papers can’t therefore be used

In a recent survey, Soares, et al. (2010) point out that “Some J lineages [associated with Neolithic migrations from the Near East]¹¹¹ may have arrived earlier than the Neolithic, so that the levels of Neolithic immigration might still be over-estimated, as has also been suggested for the Y chromosome.” They suggest that “less than 15% of European lineages were contributed from the Near Eastern Neolithic component . . . and there was substantial adoption of farming by indigenous groups in many parts of Europe . . .” Zapata, et al. (2004) find that while agriculture reached the eastern coast of Iberia ca. 5600-5400 BCE, there was a considerable delay (four to eight centuries) until farming is attested on the coast of the Bay of Biscay around 5200-4600 BCE. This suggests that the ancestors of the Basques retained their foraging economy for centuries until finally succumbing to the Neolithic advance, and eventually adopting their new Dene-Caucasian language along with other cultural innovations.

Conclusions

I propose the following relationships between Basque and other languages in the greater Mediterranean area:

It is indisputable that modern humans have lived in the Basque Country and Gascony for at least 30,000 years (and other hominins much earlier than that). However, it is unlikely that there is an unbroken line of development from the language of the Paleolithic early modern human settlers to the language we know as Basque. The linguistic evidence indicates that a Dene-Caucasian language was adopted, along with a complete “package” of Neolithic agro-pastoralism, from neighboring cultures, with the original stimulus from the Cardial culture. The linguistic features of the oldest Neolithic terms in Basque indicate that they have the same origin as the most basic layers of lexis, *i.e.* they are all Dene-Caucasian.

We can now lay to rest Trask’s (1997: 35) categorical statement that “Basque is a genetically isolated language: there is not the slightest shred of evidence that it is related to any other living language ...” This was not even a valid assertion decades ago, when Lafon, Bouda, Trombetti and others assembled copious evidence that generally supports my conclusions here, though in an unsystematic way.¹¹² It is not disputed that this early evidence was of varying quality, and perhaps as much as 80% of the lexical material has been eliminated by later testing, but the parts that have survived the refiner’s fire make up a good portion of the lexical, morphological, and phonological evidence put forth in recent years (especially in Bengtson 2003, 2004, 2008a, 2010b), and only sampled in the preceding pages. I believe most if not all of the errors rightly criticized by Trask, Jacobsen (e.g. 1995) and others have been eliminated from my recent papers. On the points where I differ radically from Michelena and other vasconists I have given detailed explanations (as seen in some of the footnotes to this article). There is of course still room for argument on some of the specific points, but I believe the overall findings are quite solid. At the least, a more comprehensive and satisfactory solution for the origin of the Basque language, incorporating morphology, lexis and phonology, has not been proposed.

as EVIDENCE that the Basques are Paleolithic.” Bernard Comrie on *Mother Tongue-Long Ranger* email group, Jan. 21, 2008: MTLR@yahoogroups.com

¹¹¹ “J2 is thought to be the most important Y-chromosome marker for the spread of farming into southeast Europe” (Soares, et al. 2010).

¹¹² I must give some credit to Chirikba (1985). Though his work was rightly criticized severely (along with my own) by Trask (1995, 1997) and Jacobsen (1995), the fact remains that he was the first to compare Basque with the new Caucasian reconstructions by Nikolayev and Starostin (still unpublished at the time), and his little paper was the initial stimulus that got me working in this area. Thanks also to Vitaly Shevoroshkin for introducing me to Chirikba’s paper and the rest of the Sino-Caucasian work being done by the Muscovites.

The relationship between **Dene-Caucasian** and the two other macro-families of roughly Paleolithic time-depth that have impacted the Mediterranean region, **Eurasiatic** (“narrow Nostratic”)¹¹³ and **Afro-Asiatic**, is probably as sister (or cousin) languages all deriving from a much older “Borean” ancestor. “I have no reason at all to suppose a closer genetic link between Nostratic and Sino-Caucasian than, say, between Nostratic and Afro-Asiatic or between Afro-Asiatic and Sino-Caucasian” (Starostin 2007c: 454). Fleming’s (1991) “Borean” consists of these three entities plus Amerind, and was dated by him “around 45,000 BP.” As was typical, Starostin arrived at a *much* younger date for a similar linguistic entity “around the 14th-15th millennium BC” (Starostin 2007d: 817), which is quite close to the estimated age of “Borean” as “15 – 17 KYA” by Gell-Mann et al. (2009: 25).¹¹⁴ According to Bomhard (2008: 236) the Nostratic parent language (which gave rise to Afro-Asiatic as well as Eurasiatic) “may be dated to between 15,000 to 12,000 BCE, that is, at the end of the last Ice Age.”

In any event, any genetic relationship between Dene-Caucasian and Afro-Asiatic would date long before the spread of agriculture and the rest of the Neolithic cultural package. The few Afro-Asiatic elements in Basque are relatively recent and can be attributed to borrowing from specific AA subdivisions (Egyptian, Semitic, etc.). Some extremely old lexemes (such as those for ‘dry’ and ‘small’ discussed on pp. 159-160) can be traced back to a very early Borean stage.

Epilog

In the early 1960s Dan McCall predicted: “The next few decades will see, I am convinced, an efflorescence of multi-disciplinary historical research.¹¹⁵ This will recover for us much of the human picture and give us an increasing abstraction of historical horizons” (McCall 1964: 155). Dan’s prediction is coming true: we live in an extremely exciting time in which the usually discrete Four Fields of Anthropology are managing to work together and produce an ever clearer picture of human prehistory.

Acknowledgments

I am grateful to Václav Blažek and Peter Rowley-Conwy for helpful comments and corrections. They are not responsible for any mistakes made by me.

Languages/dialects:

AA : Afro-Asiatic (Afrasian, Hamito-Semitic); **AN** : Alto Navarro (Bsq); **B** : Bizkaian (Bsq); **BN** : Basse-navarrais (Bsq); **Bsq** : Basque; **Bur** : Burushaski; **Cauc** : (North) Caucasian; **DC** : Dene-Caucasian; **G** : Gipuzkoan (Bsq); **L** : Lapurdian = Labourdin (Bsq); **PAA** : Proto-Afro-Asiatic; **PAE** : Proto-Athabaskan-Eyak; **PDC** : Proto-Dene-Caucasian; **PEC** : Proto-(North-)East-Caucasian; **PIE** : Proto-Indo-European; **PNC** : Proto-(North) Caucasian; **PST** : Proto-Sino-Tibetan; **PY** : Proto-Yeniseian; **R** = Roncalese (Bsq); **UB** : Unified Basque = euskara batua; **Z** : Zuberoan = Souletin (Bsq)

¹¹³ “Eurasiatic” is Greenberg’s term for the macro-family that includes Indo-European, Uralic, Altaic, and others, roughly corresponding to Bomhard’s “Eurasiatic”, which he sees as a subgroup of Nostratic or a moiety with Afro-Asiatic.

¹¹⁴ Their version of Borean is similar to Fleming’s except that it includes Austric rather than Amerind!

¹¹⁵ McCall meant here History in the large sense, including contributions from “archaeology, linguistics, ethnology, ethno-botany and ethnozoology, physical anthropology and serology, geography, physics and the analysis of art” (Ibid., p. 7). See also Hal Fleming’s discussion of these issues, pp. 3-4 of this volume.

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Journal of the Association for the Study of Language in Prehistory • Issue XIV • 2009

In Memory of Daniel F. McCall

MCG	Materials for a Comparative Grammar = Bengtson (2008a)
MDELV	Materiales para un diccionario etimológico de la lengua vasca = Agud & Tovar (1988-)
NCED	North Caucasian Etymological Dictionary = Nikolaev & Starostin (1994)
REW	Romanisches etymologisches Wörterbuch = Meyer-Lübke (1911)
SCCG	Sino-Caucasian Comparative Glossary = Starostin (2005b)
TOB	Tower of Babel: Etymological Databases (Starostin, et al.)

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