

Prosodic change: The history of the Basque prosodic systems

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Introduction

The diversity of prosodic systems is wide in modern Basque (cf. Hualde 1997)

- **Central:** Word-level stress in the peninitial syllable, marked words +1.
- **Eastern:** Word-level stress in the penultimate syllable, marked words –1.
- **Goizueta:** 2 different pitch accents that can fall in either of the first two syllables.
- **Western:** Only some words are lexically accented, phrasal pitch accent.

emakume

emakume





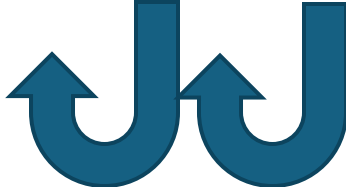
emakume

emak*u*me

emakume¹

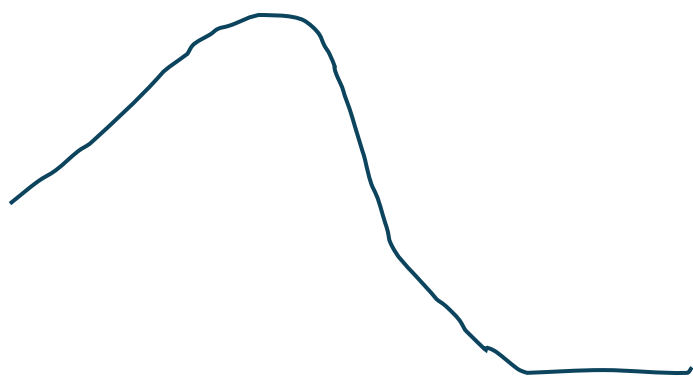


emak²ume¹

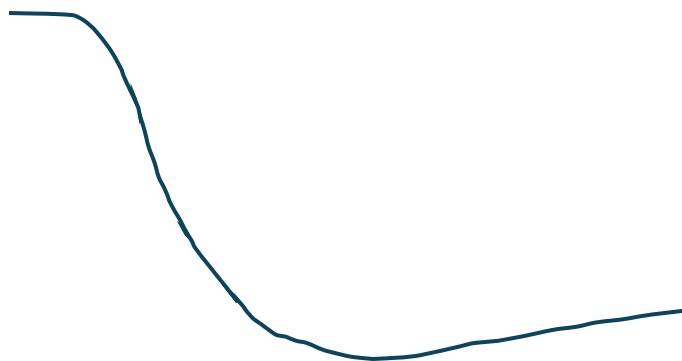
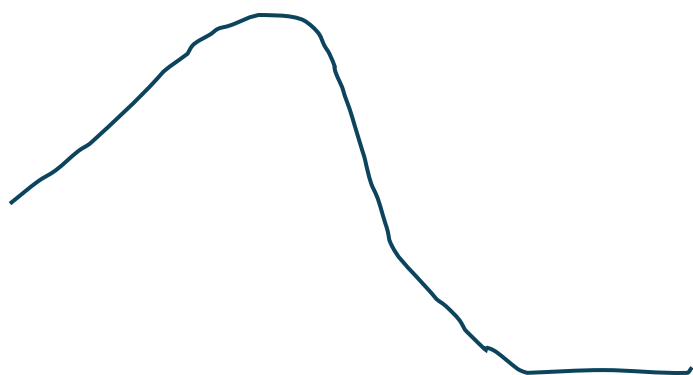


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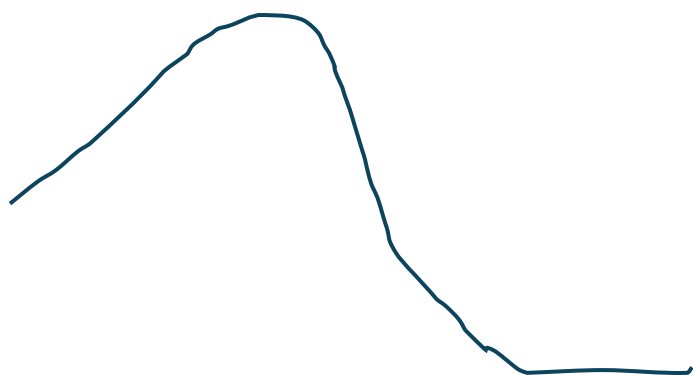
¹e²mākume



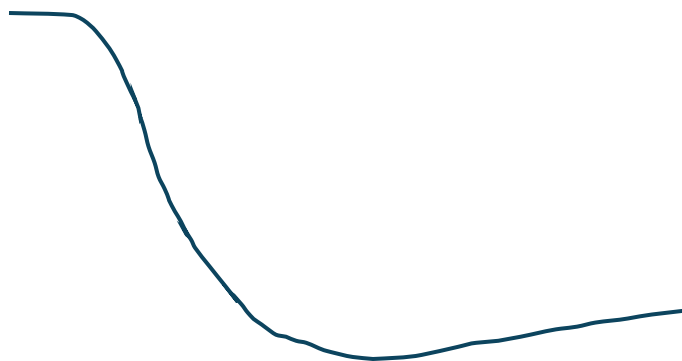
¹
e²makume



¹
e²makume



?



?

¹
e²makume

atzo emakumeak ikusi nituen

a/tzo emakume\ak ikusi nituen

a/tzo emakume\ak ikusi nituen

a/tzo ema\kumeak ikusi nituen

a/tzo emakume\ak ikusi nituen

?

a/tzo ema\kumeak ikusi nituen

How did we get there?

Roadmap

- Present our reconstruction of the Proto-Basque and Common Basque prosodic systems.
- Describe the main prosodic systems present in modern Basque.
- Propose a historical sequence that accounts for all those systems, grounding it on phonetic, philological, geographic, and historical evidence.
- Conclusions and chronology.

Proto-Basque

- (Old) Proto-Basque: Earliest reconstruction of Basque (before CE).
- Lakarra (1995, et seq.):
 - Monosyllabic CVC structure (no CC clusters, no diphthongs).
 - Mostly prefixing (*e-*, *da-*, reduplication).
 - In the way to disyllabic words.
 - No prosody reconstructed → stress fell in the root?
- Blevins (2018):
 - Very different system, but also involving monosyllabic+disyllabic words.
 - Weight-based predictable stress: (C)V-**CVC** vs. **CVC**-(C)V, etc.

(Early) Proto-Basque segmental inventory

	stop			fricative			sonorant		
	lab	dent	vel	apical	laminal	glottal	nasal	lateral	rhotic
onset	b	t, d	k, g	s _L	s _□	h	n	-	-
coda	-	-	-	s _L	s _□	-	n	l	ɾ

Proto-Basque prosody: stress vs. accent

- Coming from a monosyllabic state, we don't presume the accent was stress-like (i.e. duration or intensity-based), but rather based in pitch.
 - This is, as a main acoustic cue (others could play a role).
 - Null-hypothesis: Accent is realized as $\rightarrow H^*$
- We don't reconstruct more than a single pitch melody, but:
 - A detailed study of the reconstructed roots is required:
 - a high degree of homonymy in monosyllabic roots could suggest multiple melodies.
 - a considerable bias in the distribution of the laryngeal features of onset stops could suggest tonogenesis: e.g. higher number of lenis vs. fortis, only one clear series, etc.
 - Future (independent) evidence of tonal interaction or of glottal segments (h vs. ?) in coda position would bring a reevaluation of this hypothesis.
 - right now, it seems unlikely.

Proto-Basque prosody: Accent assignment

- Accent assignment rule: Roots are accented, prefixes are unaccented
 \approx weight-based system, especially if root = CVC & prefix = (C)V-.
- Prefixing results in a growing tendency to iambic feet.
- Boundary tones: Difficult to reconstruct.
 - Possibly %L / L%? (see hypotheses later on)

Common Basque

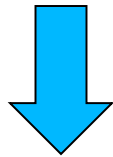
- Common Basque: Reconstruction of the language only based on the comparison between dialects (cf. Michelena 1981 [2011]).
 - Roughly placed in the first half of the Middle Ages (e.g. 7-9th centuries).
- In a monosyllabic-to-disyllabic, prefixing Proto-Basque, roots would bear a H* tone, while prefixes would be unspecified for tone.

[0 H*]_{word} [0 H*]_{word} [0 H*]_{word}

Proto-Basque to Common Basque

- Within a syntactic phrase, tone would spread forward from the end of a root/word to the toneless syllable at the beginning of the next root/word, giving homogeneity to the tonal sequence in the phrase.

$[[0\ H^*]_{\text{word}}\ [0\ H^*]_{\text{word}}]_{\text{phrase}}\ [[0\ H^*]_{\text{word}}]_{\text{phrase}}$



$[[0\ H^*]_{\text{word}}\ [H\ H^*]_{\text{word}}]_{\text{phrase}}\ [[0\ H^*]_{\text{word}}]_{\text{phrase}}$

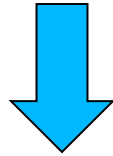
Proto-Basque to Common Basque

- The phrase-initial toneless syllable would take a L (as in e.g. Bantu lgs).
 - Potentially from a boundary %L, but also as a default distinction.
- The last H would be interpreted as phrasal H*, creating a new system with mostly unaccented words (as in Cushitic, e.g. Somali).

$[\underline{L} / \overline{H H H H H H H}^*]_{\text{phrase}}$

Proto-Basque to Common Basque

$[[0\ H^*]_{\text{word}}\ [H\ H^*]_{\text{word}}]_{\text{phrase}}\ [[0\ H^*]_{\text{word}}]_{\text{phrase}}$



$[[L\ H\]_{\text{word}}\ [H\ H^*]_{\text{word}}]_{\text{phrase}}\ [[L\ H^*]_{\text{word}}]_{\text{phrase}}$

Proto-Basque to Common Basque

- A final boundary L% could have been developed as an extension of initial %L (that is, in the concatenation of phrases).

$[[L\ H]_{\text{word}} [H\ H^*]_{\text{word}}]_{\text{phrase}} [[L\ H^*]_{\text{word}}]_{\text{phrase}}$

$[\underline{L}/\overline{H\ H\ H\ H\ H\ H\ H\ H^*} \backslash \underline{L\%}]_{\text{phrase}}$

Common Basque prosody

- Phrasal accentuation.
 - Final
 - H*
 - Boundary tones: %L, L%
- Most words were unaccented, but...
- Gradual introduction of accentedness.
 - Via loanwords (e.g. *léku* < *locum* 'place', *dénbora* < *tempora* 'time'...)
 - Via compounding

Common Basque prosody: first accented words

- Accented loanwords:
 - Likely the first set of accented words in the language.
 - From Latin/early Ibero-Romance
 - Accent often in etymological position (i.e. non-final, vs. unmarked final)
 - e.g. *léku* < *locum* ‘place’, *dénbora* < *tempora* ‘time’, *líburu* ‘book’, *eskóla* ‘school’...
- Accented compounds / derived words:
 - According to Hualde (2022, among others), a glottal stop (ʔ) triggered accentuation in compounds.
 - This special kind of compounding developed ~ during the Middle Ages.

Modern Basque prosodies

- (Type I): Western accentuation
- (Type II): Central accentuation
- (Type III): Goizueta accentuation
- (Type IV): Eastern accentuation

Modern Basque prosodies

- (Type I): Western accentuation
- (Type II): Central accentuation
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Western accentuation

- Not very different from our proposed Common Basque system.
- A lexical distinction between accented and unaccented words.
 - Similar to e.g. Tokyo Japanese or Cushitic languages (Somali).
- Accent is assigned morphologically.
- Unaccented words: Combination of unaccented morphemes.
 - Most native stems and singular affixes, some derivational affixes.

$$[\underline{L}/\overline{H\ H\ H\ H\ H^*}\backslash\underline{L\ L}]_{\text{phrase}}$$

Western accentuation

- Derived accent: When unaccented words precede the verb or in isolation, prosodic prominence on the final syllable.

lagune berandú etorri de

‘the friend has come late’

laguné etorri de

‘the friend has come’

- Accented words: At least one accented morpheme
 - Stem or affix.
 - Most compounds and loanwords are accented.
 - Plural inflectional suffixes and most derivative suffixes are pre-accenting.

Western accentuation: Realization

Realization of the prosodic phrase:

- Boundary tone: Phrase-initial %L (first syllable).
- Phrasal H in the second syllable.
- A high tone is maintained until the accent.
 - i.e., phrasal H spreads rightwards onto the following syllables (H plateau).
- Accent: H*.
 - a peak on the accented syllable is followed by a gradual fall.
- Boundary L%.
- L maintained until the second syllable of the next prosodic phrase.

Western accentuation: Realization

a) la/guné\ etorri de

| | |

%L H H*+L

‘the friend has come’

ka/lién\ ikusi doras

| | |

%L H H*+L

‘I have seen them in the street’

b) la/gunen (sg.) amú\ ma ikusi dot

| |

|

%L H

H*+L

‘I have seen the friend’s grandmother’

la/gú\ nen (pl.) a/mú\ ma ikusi dot

| |

| |

%L H*+L

%L H*+L

‘I have seen the friends’ grandmother’

Modern Basque prosodies

- (Type I): Western accentuation
- (Type II): Central accentuation
- (Type III): Goizueta accentuation
- (Type IV): Eastern accentuation

Central accentuation

- Most widespread accentual system.
- Word-level stress: Generally in the second syllable.
 - *emákume* ‘woman’, *alába* ‘daughter’
- Exceptions: Initial syllable in...
 - Disyllabic words ending in a vowel: *néska* ‘girl’, *bíde* ‘way’.
 - Monosyllabic roots: *lúrr-erako* ‘for the earth’, *ón-arekin* ‘with the good one’.
 - Borrowings: *básoa* ‘the glass’, *dénbora* ‘time’, *líburu* ‘book’.
 - Marked suffixes.

Central accentuation: Suffixes

Indef.	Unmarked	Gloss	Marked	Gloss
<i>zakúr</i>	<i>zakúrr-ak</i>	‘the dog (erg.sg)’	<i>zákurr-ek</i>	‘the dogs (erg.pl)’
<i>gizón</i>	<i>gizón-ai</i>	‘to the man’	<i>gízon-ai</i>	‘to the men’
<i>mendí</i>	<i>mendí-tik</i>	‘from the mountain’	<i>méndi-tatik</i>	‘from the mountains’
<i>polítt</i>	<i>polítt-e</i>	‘pretty (adj)’	<i>pólitt-egi-e</i>	‘too pretty’
<i>azkár</i>	<i>azkárr-a</i>	‘fast (adj)’	<i>ázkarr-en-a</i>	‘the fastest’
<i>txerri</i>	<i>txerri-e</i>	‘the pig’	<i>txérri-ki-e</i>	‘the pork’
-	<i>etórr-i</i>	‘to come’	<i>étor-tzen</i>	‘coming’

Modern Basque prosodies

- (Type I): Western accentuation
- (Type II): Central accentuation
- (Type III): Goizueta accentuation
- (Type IV): Eastern accentuation

Goizueta accentuation

- Accent: Four-way accentual (lexical) distinction.
- Placement: Either of the first two syllables of the word.
- Melodies:
 - Accent 1: late falling accent H^*+L (simplifying: H^*)
 - Accent 2: low/early falling accent $H+L^*$ (simplifying: L^*)

Goizueta accentuation

- **Class 1 – 2nd syll., accent 1 (H^*/H^*+L):** *saré* ‘net’, *besó* ‘arm’, *alába* ‘daughter’, *emákume* ‘woman’, *arrántzale* ‘fisherman’, *basérritarra* ‘the farmer’, *basó* ‘forest’
- **Class 2 – 1st syll., accent 1 (H^*/H^*+L):** *áma* ‘mother’, *átta* ‘father’, *mátte* ‘loved, dear’, *séme* ‘son’, *úme* ‘child’, *sáltsa* ‘sauce’ (< Sp. *salsa*), *nólabitte* ‘somehow’
- **Class 3 – 2nd syll., accent 2 ($L^*/H+L^*$):** *eskòla* ‘school’, *basèrri* ‘farmhouse’, *borròka* ‘fight’, *attàiarra* ‘father-in-law’, *belàrri* ‘ear’, *azkànarro* ‘badger’
- **Class 4 – 1st syll., accent 2 ($L^*/H+L^*$):** *sàlto* ‘jump’, *kàfe* ‘coffee’, *fàbrika* ‘factory’, *lèngusu* ‘cousin’, *àurre* ‘front’, *àtze* ‘back’, *èuzki* ‘sun’, *bàso* ‘glass’

Goizueta accentuation

- Class 1: Mostly native words (unmarked)
 - Indefinite and definite singular nouns and adjectives.
- Class 2, 3 and 4: Smaller number of words pro group.
 - Loanwords and some native words, many of them compounds.
- Plural case markers and certain derivative suffixes lead to an accentual change.
 - from H / late falling to L / early falling.
 - the accented syllable is maintained.

a) Accent in the second syllable (Class 1 → Class 3)

Accent 1 (H)	Gloss	Accent 2 (L)	Gloss
<i>mendía</i>	‘the mountain (abs.sg)’	<i>mendìk</i>	‘the mountains (abs.pl)’
<i>gizónari</i>	‘to the man’	<i>gizònari</i>	‘to the men’
<i>auzó</i>	‘neighborhood’	<i>auzòtar</i>	‘neighbor’
<i>beldúrra</i>	‘the fear (abs.sg)’	<i>beldùrtia</i>	‘fearful’

b) Accent in the first syllable (Class 2 → Class 4)

Accent 1 (H)	Gloss	Accent 2 (L)	Gloss
<i>úmek</i>	‘the child (erg.sg)’	<i>ùmek</i>	‘the children (erg.pl)’
<i>ámakin</i>	‘with the mother’	<i>àmakin</i>	‘with the mothers’
<i>béltza</i>	‘the black (abs.sg)’	<i>bèltzagi</i>	‘too black’

Modern Basque prosodies

- (Type I): Western accentuation
- (Type II): Central accentuation
- (Type III): Goizueta accentuation
- (Type IV): Eastern accentuation

Eastern accentuation

- Unmarked stress: Penultimate syllable of the base
 - the stem in Roncalese and the word in Zuberoan.
 - *gízun* ‘man’, *gizúna* ‘the man’, *néska* ‘girl’, *alhába* ‘daughter’...
- Marked stress: Last syllable
 - *alhabá* ‘the daughter’, *neská* ‘the girl’, *ardũ* ‘wine’, *añái* ‘ram’
 - monosyllabic suffixes (cf. *-ñí*, *-xkót*, *-liár*, *-tiár*, *-(t)ár*, *-kór* or the borrowed *-ús*).
 - compounds with a monosyllable: *gibel-mín* ‘bile, gall’, *giza-txár* ‘bad man’...
- Plural *-e-* also marked; attracts stress
 - *gizunék* ‘the men (erg.)’, *gizunér* ‘to the men’, *gizunéna* ‘of the men’, *gizunéki* ‘with the men’, *gizonéntako* ‘for the men’...

**How did these very different systems
develop from the proposed reconstructed
system?**

From Common Basque to the Western system

Remember: Western accentuation

a) la/guné\ etorri de

‘the friend has come’

| | |

%L H H*+L

ka/lién\ ikusi doras

‘I have seen them in the street’

| | |

%L H H*+L

b) la/gunen (sg.) amú\ ma ikusi dot

‘I have seen the friend’s grandmother’

| |

|

%L H

H*+L

la/gú\ nen (pl.) a/mú\ ma ikusi dot

‘I have seen the friends’ grandmother’

| |

| |

%L H*+L

%L H*+L

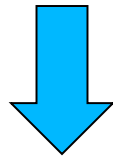
From Common Basque to the Western system

Fairly similar systems. Two additions and one change needed:

- Incorporation of more accented morphemes
 - Recent borrowings
 - Later compounds
- Development of a class of pre-accenting morphemes:
 - Derivational suffixes
 - Grammaticalization of the plural inflection as pre-accenting
- Categorization of verbs as non-accentual
 - Interpolation of the boundary L⁰ through neighboring slots

From Common Basque to the Western system

$[\underline{L} / \overline{H H H H H H H^* \backslash \underline{L^0}}]_{\text{phrase}}$



$[\underline{L} / \overline{H H H H H H^* 0 0 \backslash \underline{L^0}}]_{\text{phrase}}$

Evidence for the Western as the earliest system

- Maintenance of Latin accent in its etymological position.
 - Unlike other systems.
- Set of marked words and affixes.
 - Comparable to the Central and Goizueta systems, but not to the Eastern.
- Unrestricted distribution of /h/ in medieval attestations.
 - Unlike any other system: /h/ is limited to the first two syllables elsewhere.

Distribution of /h/ in the earliest documentation

- Aquitanian (I-III c.): *Abisunhari, Dusanharis, Serhuhoris, Larrahe, Artahē, Herauscorritsehe...*
- Medieval, West (XI c.): *Hilarrazaha, Hascarzaha, Udalha, Aialha, Bahaheztu, Hurizahar, Harhaia, Hagurahin, Hereinzguhin, Hararihini, Adurzaha, Gastehiz...*
- Medieval, East (XI-XII c.): *Fondarraga, Ferizmendi, Sufarasu, Feribarren, Fathse, Ferriete, Ferriague, Olfegi, Befasken...*

Distribution of /h/

- Restricted domain of occurrence of /h/:
 - Present in Central and Eastern, assumed in Goizueta.
 - No restriction in Western varieties.

[[σ ó]_{/h/} σ σ]_{word}

- Triggered metathesis in n > h loanwords:
 - Lat. anate(m) > ahate 'duck', but:
 - Lat. leone(m) > *leohe > lehoi 'lion'
 - Lat. arena > *areha > hareia 'sand'

From the Western to the Central system

Remember: Central accentuation

Indef.	Unmarked	Gloss	Marked	Gloss
<i>zakúr</i>	<i>zakúrr-ak</i>	‘the dog (erg.sg)’	<i>zákurr-ek</i>	‘the dogs (erg.pl)’
<i>gizón</i>	<i>gizón-ai</i>	‘to the man’	<i>gízon-ai</i>	‘to the men’
<i>mendí</i>	<i>mendí-tik</i>	‘from the mountain’	<i>méndi-tatik</i>	‘from the mountains’
<i>polítt</i>	<i>polítt-e</i>	‘pretty (adj)’	<i>pólitt-egi-e</i>	‘too pretty’
<i>azkár</i>	<i>azkárr-a</i>	‘fast (adj)’	<i>ázkarr-en-a</i>	‘the fastest’
<i>txerri</i>	<i>txerri-e</i>	‘the pig’	<i>txérri-ki-e</i>	‘the pork’
-	<i>etórr-i</i>	‘to come’	<i>étor-tzen</i>	‘coming’

From the Western to the Central system

Major changes:

- Adoption of the phonological word as the smallest prosodic unit.
- Reinterpretation of the phrase-initial LH pitch rise as (nearly-) demarcative stress in the second syllable (cf. Elordieta & Hualde).
 - a major class of unmarked words with peninitial stress.
- Marked word-initial stress in:
 - a number of old loanwords that already had initial stress in Latin.
 - an incipient class of pre-accenting suffixes that produced accent retraction instead.

Evidence for the Central as the second system

- Maintenance of Latin accent as marked, but only in initial position.
 - The Eastern system lost it.
 - The Western system maintains it in any position.
- Set of marked words and affixes.
 - Comparable to the Western and Goizueta systems, but not to the Eastern.
- Limited distribution of /h/ in the oldest attestations: first 2 syllables.
 - /h/ is limited to the syllables preceding stress.

From the Central to the Goizueta system

Remember: Goizueta accentuation

- **Class 1 – 2nd syll., accent 1 (H^*/H^*+L):** *saré* ‘net’, *besó* ‘arm’, *alába* ‘daughter’, *emákume* ‘woman’, *arrántzale* ‘fisherman’, *basérritarra* ‘the farmer’, *basó* ‘forest’
- **Class 2 – 1st syll., accent 1 (H^*/H^*+L):** *áma* ‘mother’, *átta* ‘father’, *mátte* ‘loved, dear’, *séme* ‘son’, *úme* ‘child’, *sáltsa* ‘sauce’ (< Sp. *salsa*), *nólabitte* ‘somehow’
- **Class 3 – 2nd syll., accent 2 ($L^*/H+L^*$):** *eskòla* ‘school’, *basèrri* ‘farmhouse’, *borròka* ‘fight’, *attàiarra* ‘father-in-law’, *belàrri* ‘ear’, *azkànarro* ‘badger’
- **Class 4 – 1st syll., accent 2 ($L^*/H+L^*$):** *sàlto* ‘jump’, *kàfe* ‘coffee’, *fàbrika* ‘factory’, *lèngusu* ‘cousin’, *àurre* ‘front’, *àtze* ‘back’, *èuzki* ‘sun’, *bàso* ‘glass’

From the Central to the Goizueta system

- Class 1: The unmarked accent in Goizueta, H^*+L / late falling in the second syllable, similar to the Central unmarked pattern (becoming stress later on).
- Class 2: H^*+L in the first syllable, similar to the Central marked pattern.
- How to derive Classes 3-4 and their accent 2 ($H+L^*$ / early falling)?
From the encounter of two late falling accents on a single class 1-2 word

From the Central to the Goizueta system

- Two nearby H*+L pitch contours “collided” in the speech chain.
- This clash produced an anticipation of the first contour, so that it was dissimilated from H*+L to H+L*.
- This change would be parallel to the retracting effect of marked suffixes in the Central system.
 - It would retract the contour, but without displacing it to the previous syllable.

$$[\sigma \acute{\sigma} \sigma]_w + [\acute{\sigma}]_{pl} \rightarrow *[\sigma \grave{\sigma} \sigma \acute{\sigma}]_{pl.w} \rightarrow [\sigma \grave{\sigma} \sigma \sigma]_{pl.w}$$

Evidence for the pitch retraction in plurals

- Plurals were independent words (and accentual units), probably until late times (Manterola 2015: 298-299).
- Most plurals are realized by changing accent 1 (H^*+L) to 2 ($H+L^*$).
- We can observe a similar process today in compounds with 2 accents:
 - *eó* ‘south’ vs. *eò-aizé* ‘south-wind’; *arráts* vs. *arràtsaldé* ‘afternoon’
- Then, plurals and most old compounds lost the second accent.

a) Accent in the second syllable (Class 1 → Class 3)

Accent 1 (H)	Gloss	Accent 2 (L)	Gloss
<i>mendía</i>	‘the mountain (abs.sg)’	<i>mendìk</i>	‘the mountains (abs.pl)’
<i>gizónari</i>	‘to the man’	<i>gizònari</i>	‘to the men’
<i>auzó</i>	‘neighborhood’	<i>auzòtar</i>	‘neighbor’
<i>beldúrra</i>	‘the fear (abs.sg)’	<i>beldùrtia</i>	‘fearful’

b) Accent in the first syllable (Class 2 → Class 4)

Accent 1 (H)	Gloss	Accent 2 (L)	Gloss
<i>úmek</i>	‘the child (erg.sg)’	<i>ùmek</i>	‘the children (erg.pl)’
<i>ámakin</i>	‘with the mother’	<i>àmakin</i>	‘with the mothers’
<i>béltza</i>	‘the black (abs.sg)’	<i>bèltzagi</i>	‘too black’

Evidence for the pitch retraction in plurals

- Our hypothesis also accounts for the only exceptions to the accent-change rule of plurals:

Plural words longer than four syllables show Accent 1.

- No “accentual clash” occurs due to the greater distance between the pitch contours of the root and the plural morpheme.

$$[\sigma \acute{\sigma} \sigma \sigma]_w + [\acute{\sigma}]_{pl} \rightarrow **[\sigma \grave{\sigma} \sigma \sigma \acute{\sigma}]_{pl.w}, [\sigma \acute{\sigma} \sigma \sigma \sigma]_{pl.w}$$

Evidence for Goizueta as the third system

- Maintenance of Latin accents as marked, mostly in initial position.
 - The Eastern system lost it.
 - The Western system maintains it in any position.
- Set of marked words and affixes.
 - Comparable to the Central and Western systems, but not to the Eastern.
- (Assumed) distribution of /h/ in the oldest attestations: Only in the first 2 syllables (unattested).
 - /h/ is assumed to have been restricted to the syllables preceding stress before it was lost.

Evidence for Goizueta as the third system

- Very similar to the Central system, which surrounds it geographically.
 - Only one major innovation separates them.

		West	Cent.	Goiz.	East
i-	Word-level accent	x	✓	✓	✓
ii-	All/most words accented	x	✓	✓	✓
iii-	Accent restricted to initial foot	x	✓	✓	x
iv-	Second-syllable unmarked accent	x	✓	✓	x
v-	Two pitch accents (H^*+L & $H+L^*$)	x	x	✓	x

From the Central to the Eastern system

Remember: Eastern accentuation

- Unmarked stress: Penultimate syllable of the word
 - *gízun* ‘man’, *gizúna* ‘the man’, *néska* ‘girl’, *alhába* ‘daughter’...
- Marked stress: Last syllable
 - *alhabá* ‘the daughter’, *neská* ‘the girl’, *ardű* ‘wine’, *añái* ‘ram’
 - monosyllabic suffixes (cf. *-ñí*, *-xkót*, *-liár*, *-tiár*, *-(t)ár*, *-kór* or the borrowed *-ús*).
 - compounds with a monosyllable: *gibel-mín* ‘bile, gall’, *giza-txár* ‘bad man’...
- Plural *-e-* also marked; attracts stress
 - *gizunék* ‘the men (erg.)’, *gizunér* ‘to the men’, *gizunéna* ‘of the men’, *gizunéki* ‘with the men’, *gizonéntako* ‘for the men’...

From the Central to the Eastern system

- A reinterpretation of the peninitial stress in trisyllabic words as originating in the penultimate syllable would give rise to the Eastern pattern (Michelena 1961/77).

$$[\sigma \acute{\sigma}] ([\sigma \acute{\sigma} \sigma]) \rightarrow [\acute{\sigma} \sigma]$$

- This is only possible at a time when most words were trisyllabic: after the grammaticalization of the determiner *-a* < *ha(r).
- The ambiguity was resolved in an innovative way due to Gascon influence.

From the Central to the Eastern system: marked stress

- The class of marked words is “reset”: all marked words from older systems are now unmarked.
- A new class of marked words is created after the coalescence of word-final vowel clusters.
 - 'V.V > 'V, 'Vw
- The grammaticalization of the plural suffix -e- as systematically bearing stress creates yet another set of marked words: plurals.

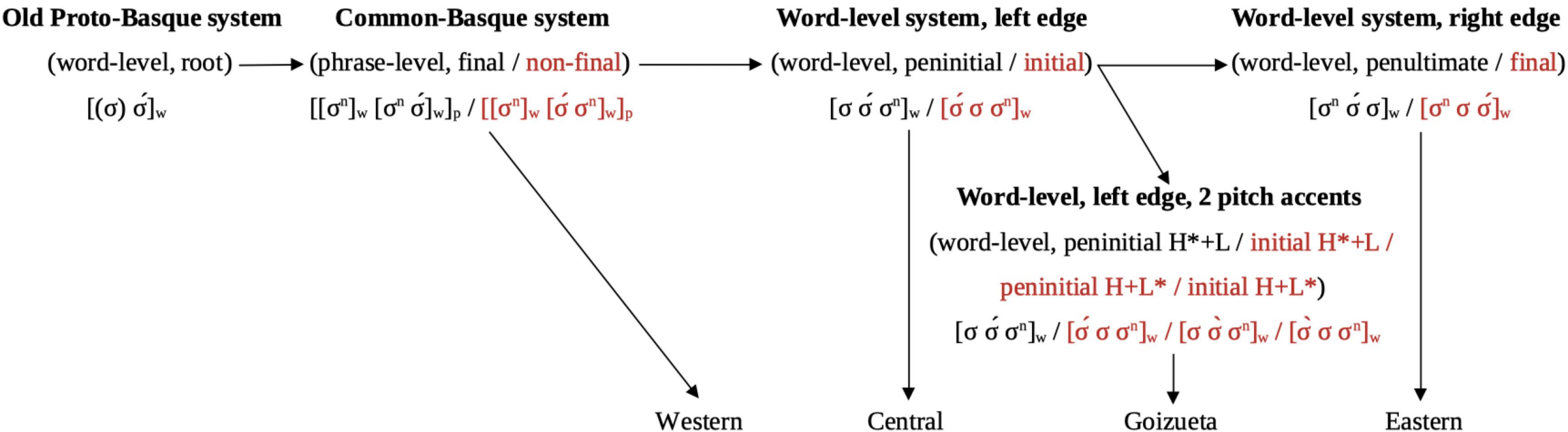
Evidence for the Eastern as the fourth system

- Similar distribution of /h/ as in the Central and Goizueta systems, but, crucially, in this variety it cannot be explained by the accentual domain.
 - Unless the Eastern varieties also had peninitial stress in older times.
- No shared pool of marked words with other varieties, except...
 - Plural suffix -e- is also marked: carries stress.
- We reconstruct a “reset” of the marked class, but the grammaticalization of -e- seems to have followed it.
- We assume -e- is a late innovation (Manterola 2015), and it had a comparable effect in Goizueta and the Eastern system.

Conclusions

- We propose a new reconstruction of the oldest prosodic systems of Basque and a proposed sequential order of the innovative systems in modern Basque varieties.
- We reconstruct a new set of sound changes that derived these systems (some were already known, e.g. Central to Eastern, cf. Michelena 1961/77).
- Segmental, distributional, phonetic, philological, and geographic evidence supports the proposed sequence of changes.

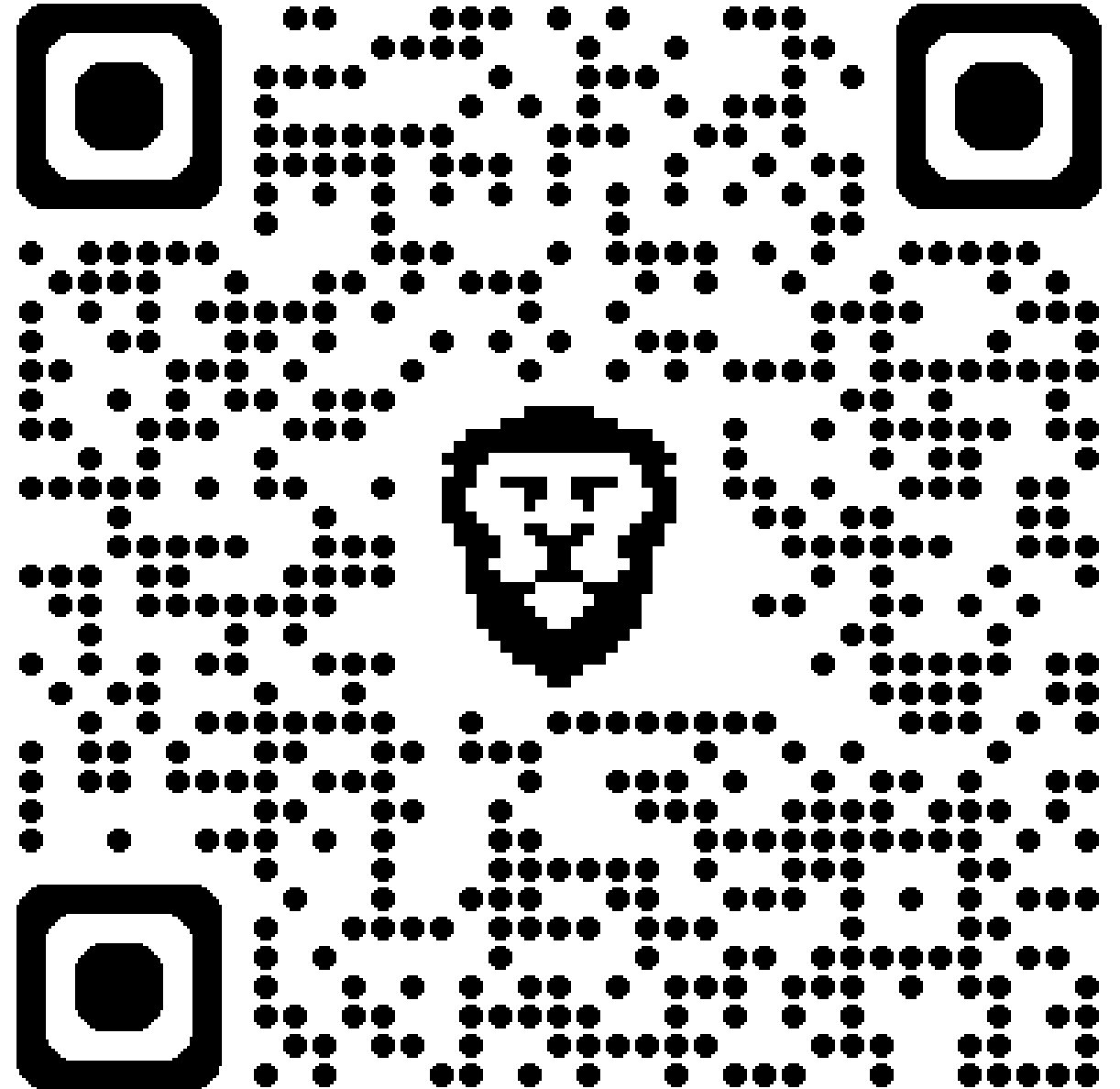
Chronology of the Basque prosodic systems



Today's paper:

Egurtzegi, A. & G. Elordieta. 2023. A history of the Basque prosodic systems. *Diachronica* 40.1, 30-72.

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