

Week 2

Phonology of Basque

April 15, 2013

1 Review

	Labial	Lamino-dental	Apico-alveolar	Palatal or postalveolar	Velar	Glottal
Nasal	m		n	ɲ		
Plosive	p b	t d		c ç	k g	
Affricate		tʃ	tʃ	tʃ		
Fricative	f	s	ʃ	ç	(j)/x	h
Lateral			l	λ		
Trill			r			
Tap			ɾ			

Table 1: consonants of Basque

i		u
	e	o
	a	

Table 2: Vowels of Basque

2 Diphthongs and hiatuses

Diphthongs only occur when the first vowel is lower than the second.¹

- (1) a. *aita* 'father' → [ajta]
- b. *behi* 'cow' → [bej]
- c. *ohitura* 'habit' → [ojtura]

¹There are no words for [ow]

- d. *suin* 'son-in-law' → [s̺ujn]
- e. *jaun* 'lord' → [xawn]
- f. *euskara* 'Basque language' → [ew̺skara]

Hiatus occurs when the first vowel is either [i] or [u]...

- (2) a. *mendia* 'mountain' → [men.di.a]
- b. *mendien* 'of the mountains' → [men.di.en]
- c. *nazio* 'nation' → [na.ɟi.o]
- d. *ziur* 'sure' → [ɟi.ur]
- e. *burua* 'the head' → [bu.ru.a]
- f. *buruen* 'of the heads' → [bu.ru.en]
- g. *zuok* 'you guys' → [su.ok]

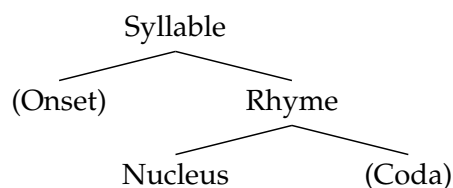
... or when both vowels are identical:

- (3) a. *ahate* 'duck' → [a.a.te]
- b. *behe* 'below' → [be.e]
- c. *mihi* 'tongue' → [mi.i]
- d. *zoologiko* 'zoo' → [ɟo.o.lo.xi.ko]
- e. *zuhur* 'smart' → [su.ur]

However, some dialects (especially Gipuzkoan and Navarrese varieties) have a tendency to avoid hiatus by inserting an epenthetic consonant between the two vowels.

- (4) a. *mendia* 'mount' → [men.di.ya]
- b. *burua* 'head' → [bu.ru.βa]
- c. *bihar* 'tomorrow' → [bi.βar]

3 Syllable structure



3.1 Nuclei

Only vowels can be nuclei.

3.2 Onsets

On top of single consonants, onsets can only be a combination of [b p t d k g f] plus [r l], except [dl] and [tl]. Nonetheless, most cluster onsets are borrowings from French or Spanish.

- | | |
|--------------------------------|----------------------------------|
| (5) a. <i>pobre</i> 'poor' | g. <i>fresko</i> 'fresh/cool' |
| b. <i>prakak</i> 'trousers' | h. <i>kable</i> 'cable' |
| c. <i>triste</i> 'sad' | i. <i>plater</i> 'plate' |
| d. <i>andre</i> 'woman' | j. <i>klarki</i> 'clearly' |
| e. <i>krabelin</i> 'carnation' | k. <i>gladiatore</i> 'gladiator' |
| f. <i>gris</i> 'gray' | |

3.3 Codas

A consonant can only be interpreted as the coda of a syllable if

- (6) a. it is followed by another consonant, or
b. it is the last sound of the word

Otherwise, a consonant followed by a vowel is interpreted as the onset of a new syllable.

- (7) a. A nasal, assimilating the place of articulation of the following consonant.
ka[m]po 'outside'; *a[n]dre* 'woman'; *a[ŋ]ka* 'leg'
- b. A liquid or rhotic
alde 'side'; *arto* 'corn'
- c. A fricative sibilant
esne 'milk'; *ezti* 'honey'; *ixtorio* 'story'
- (8) a. Nasal + sibilant fricative.
mendiranz-ko 'bound for the mountain'
- b. Liquid + sibilant fricative
belz-tu 'to make/become black'

Constraint on word-internal codas: stops and affricates cannot appear in word-internal codas. If they do, they are dropped or replaced with fricatives:

- (9) *aberats* 'rich' + *-tu* 'verbalizer' → *aberas-tu* 'to become rich'

Word-finally, we can have all the codas so far plus:

- (10) a. Affricates
hotz 'cold'; *amets* 'dream'; *apatx* 'hoof'
- b. The stops [t k]
zenbat 'how many'; *neskak* 'the girls'
- c. The cluster sibilant fricative + [t]
bost 'five'

4 Phonological processes

4.1 Conditioned palatalization

Especially in Western dialects (Bizkaia and Gipuzkoa area):

- (11) a. [in]→[ɲ]
baina 'but (aber)' [bajna]
- b. [il]→[λ]
mutila 'boy' [mutiλa]
- c. [it]→[c]
menditik 'from the mountain' [mendicik]

4.2 Affective palatalization

Occasionally, a consonant can be palatalized to create a diminutive or affective version of the same word. The most common cases are

- (12) a. [s̺ s̺]→[ʃ]
sagu 'mouse' → *xagu* 'little mouse'
- b. Word initially, [s̺ s̺]→[ʃ tʃ]
zuri 'wite' → *xuri/txuri*

4.3 Voicing of inflectional affixes

The following inflectional affixes get voiced after [n l]

- (13) a. *-tu*, perfective
sartu 'to enter'; *galdu* 'to lose'
- b. *-ko* futurate
ikusi-ko 'will see'; *esan-go* 'will say'
- c. *-ta* adjectival participle
ikusi-ta 'seen'; *esan-da* 'said'
- d. *-tik* 'from'
gaur-tik 'from today'; *hemen-dik* 'from here'
- e. *-ki* adverbializer
on-gi 'well'; *eder-ki* 'beautifully'

4.4 Processes affecting negation

The [s̺] sound negative marker *ez*

- (14) a. disappears if the following word begins with [n l]
ez naiz 'I'm not' → [enaj̺s̺]
ez luke 'he wouldn't have' → [eluke].
- b. turns to [t̺s̺] if the following word begins with [s̺]
ez zen 'he wasn't' → [et̺s̺en]
ez zara 'you aren't' → [et̺s̺ara]
- c. causes the devoicing of a following voiced obstruent
ez gara 'we aren't' → [eʃkara]
ez dut 'I don't' → [eʃtut]

These three processes are not reflected in writing.

4.5 Latin/Romance borrowings

For obvious reasons, a substantial part of the Basque lexicon consist of borrowings from French, Spanish, or Latin. However, these borrowings have been molded by Basque phonological rules.

Inflectional endings In verbs with a Spanish lexical root, the infinitival markers *-ar* *-er* and *-ir* are replaced with either *-tu* or *-du*, depending on the voicing of the preceding sound.

- *coordinar* ‘to coordinate’ → *koordinatu*.
- *despedir* ‘to fire’ → *despeditu*.

Similarly, the Spanish nominalizing suffixes *-ción* and *-sión* are replaced with *-zio* and *-sio*. Note that the unrelated ending *-ón* is adapted to Basque as *-oi*.

- *coordinación* ‘coordination’ → *koordinazio*.
- *represión* ‘repression’ → *errepresio*.
- *melón* ‘melon’ → *melo*.

Coda and onset restriction Traditionally, Basque has avoided /r/ as a word-initial consonant, inserting instead a prothetic vowel.

- *república* ‘republic’ → *errepublika*.
- *reloj* ‘clock’ → *erloju*.

Traditionally, Basque used to lack the phoneme /f/, replacing it instead with /p/. Modern standard Basque has adopted this morpheme mainly for non-Basque words, although certain dialects still exhibit a /f/ → /p/ change.

- *Fernando*, a male name → *Pernando*.
- *footing* ‘jogging’ → *putin* (Oiartzun dialect).

More generally, Basque has a tendency to voice voiceless plosives in word-initial position. In some words (typically, more recent borrowings), there is an alternation between the voiced and the voiceless version of the plosive.

- *paz* ‘peace’ → *bake* or *pake*.
- *torre* ‘tower’ → *torre* or *dorre*.
- *castaña* ‘chestnut’ → *gaztaina* but not *kaztaina*.
- *tienda* ‘shop’ → *denda* but not *tenda*.

Similarly, Basque has a tendency to disallow consonantal clusters in word-initial position. In these cases, typically the first consonant of the cluster is lost.

- *flor* ‘flower’ → *lore* but not *plore* or *flore*.
- *planta* ‘plant’ → *landare*, but not *plandare* or *blandare*.

The exception to this rule are those clusters where the second consonant is /r/, given the general ban against this phoneme in word-initial position. In these cases, an epenthetic vowel is typically inserted between the two consonants.

- *cruz* ‘cross’ → *gurutze*, but not *grutze* or *krutze*.

5 Accentuation

In Standard Basque (*batua*), stress placement is not contrastive: primary stress typically falls on the second syllable, with secondary stress in the last syllable (when permitted by the OCP) .

- (15) a. *lagúna* ‘friend’
 b. *lagúnari* ‘to the friend’

However, various dialects have a tonal system. For instance, in Northern Bizkaian:

- (16) a. Most words lack lexical accent
 b. On the second syllable of phrases, there is a tonal raise that lasts until the last syllable.
- (17) a. *ni↗re laguná↘* (‘my friend’)
 b. *ni↗re lagunen amá↘* (‘my friend’s mother’)
 c. *ni↗re lagunen txakur ederrarí↘* (‘to my friend’s pretty dog’)

In dialects like this, accent is contrastive –e.g., plurality on nouns is realized via a tonal fall. Other inflectional suffixes, like the ablative (*from*) and the comitative (*with*) also induce accentuation of the preceding syllable.

- (18) a. *Ni↗re lagunen lén↘gusua*
 (‘the cousin of my friend’)
 b. *Ni↗re lagú↘nen↗lén↘gusua*
 (‘the couasing of my friends’)

6 Prosody

In all dialects of Basque, the main sentence stress (*pitch accent*) falls on the constituent immediately preceding the [verb-auxiliary] cluster. Things are slightly more complicated in negative sentences, but we will look at that in due time. Given the stress/focus correspondence rule, it follows that the focus of the clause will invariably be the immediately pre-[verb-auxiliary] constituent. The constituents following the pitch accent will be invariable destressed.

- (19) *Focus/stress correspondence rule*
 The focus of the sentence must be assigned pitch accent.

- (20) Mutila-k liBUru-a irakurri du.
 boy.ERG book.ABS read AUX
 “It is the book that the boy has read”

By default, Basque has the order [S IO DO V Aux]. If this order is respected, then we observe *focus spread* —i.e., the focus interpretation can extend to any constituent containing the word with the pitch accent.

- (21) a. What has Jon given to Miren?
 b. Jon-ek Miren-i liBUru-a eman dio.
 Jon.ERG Miren.DAT book.ABS given AUX
 “It is the book that Jon has given to Miren”
- (22) a. What has Jon done?
 b. Jon-ek Miren-i liBUru-a eman dio.
 Jon.ERG Miren.DAT book.ABS given AUX
 “It is giving the book to Miren that Jon has done”
- (23) a. What has happened?
 b. Jon-ek Miren-i liBUru-a eman dio.
 Jon.ERG Miren.DAT book.ABS given AUX
 “Jon has given the book to Miren”

However, if the default order is modified, then focus spread is blocked, and the focus interpretation falls exclusively on the pre-[verb-auxiliary] constituent. In this case, we say that the constituent in question is the *narrow focus* of the clause.

- (24) a. What has Jon given to Miren?
 b. * Jon-ek liburu-a MiREN-i eman dio.
 Jon.ERG book.ABS MireNDAT given AUX
 “It is the book that Jon has given to Miren”
- (25) a. Who has Jon given the book to?
 b. Jon-ek liburu-a MiREN-i eman dio.
 Jon.ERG book.ABS MireNDAT given AUX
 “It is the book that Jon has given to Miren”

Constituents preceding the narrow focus are treated as topics, and as such they have a raising intonation and are separated from the following constituents by a prosodic break (notated #) of varying strength.

- (26) Jonek # liburua # MiRENi eman dio.

As long as these rules is respected, all possible permutations of constituents are possible.

- (27) a. Jonek Mireni liburua eman dio.
 b. Jonek liburua Mireni eman dio.
 c. Jonek liburua eman dio Mireni.

- d. Jonek eman dio liburua Mireni.
- e. etc...

If nothing precedes the [verb-auxiliary] cluster, then pitch accent falls on the verb itself, and the interpretation is that the action denoted by the verb is contrasted with other actions that might have taken place instead.

- (28) EMAN dio Jon-ek Miren-i liburua.
 give AUX Jon.ERG Miren.DAT book.ABS
 "Jon has given the book to Miren (as opposed to, e.g., selling it to her)"

6.1 Negative and emphatic sentences

Negative sentences differ from affirmative ones in that the auxiliary clusters together with the negative marker *ez* and the lexical verb appears at the end of the clause. In these cases, pitch accent (and therefore focus interpretation) is assigned to the constituent immediately preceding the [*ez*-auxiliary] cluster.

- (29) LiBUru-a ez dio Jon-ek Miren-i eman.
 book.ABS not AUX Jon.ERG Miren.DAT give
 "It is the book that that Jon didn't give to Miren"

Additionally, *ez* has the affirmative emphatic counterpart *ba* (etymologically related to *bai* 'yes') that exhibits the same word order and prosodic properties. Note that *ba*-sentences have a verum focus reading (the action in question is contrasted with its negative), as opposed to the verb-focus sentences above.

- (30) BA dio Jon-ek Miren-i liburu-a eman.
ba AUX Jon.ERG Miren.DAT book.ABS give
 "Jon has given the book to Miren (as opposed to not giving it to her)"