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Hypocoristic palatalization in Basque and historical applications

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Abstract
This paper examines the processes of expressive palatalization in the Basque diminutive. Basque has two forms of the diminutive, a list of inflectional suffixes and a method of palatalization with specific phonological requirements. A speaker will first palatalize any coronal sibilants in the word. If there are none, then a dental obstruent that has a palatal counterpart is the next candidate. If there are again, none, then the last candidate is a dental coronal, but only the consonant on the leftmost edge. However, if there is a sibilant and a dental consonant, only the sibilants are palatalized. If there is a dental obstruent and a dental sonorant, only the obstruent is palatalized. To describe this process, I adopt an OT approach and an autosegmental approach to determine where the [+palatal] inflection morpheme can attach. Finally, I show the application of unworking the hypocoristic formation through internal reconstruction of Basque in animal names to produce two reconstructions.

Keywords: diminutive, phonology, historical linguistics, autosegmental, OT

1. Introduction

Basque is a language spoken in the southwest region of France and the northeast region of Spain known as Basque Country – *Euskal Herria* – with around 750,000 native speakers (Saltarelli et al., 1988). It is typologically unique in Europe for several reasons. One is that it is a language isolate, belonging to a family that predates Proto-Indo-European. Work has been done that claims it is related to languages in the Caucuses, but this is still up for debate (Bengston, 2017). It is the only ergative aligned language spoken in all of Europe. It also has the typologically unusual distinction between the alveolar and alveolar laminal fricatives [s] and [s̻].

There are two kinds of phonological palatalization: the allophonic and the expressive. The allophonic palatalization is a requirement of the phonological environment and cannot be ignored by speakers. This is often triggered by front vowels [i] and [e] (Hualde, 1991). This is either through [j] insertion or through palatalization of the consonant if a palatal consonant of the same manner exists. Bérces and Ulfsbjorninn (2022) provide an autosegmental account

wherein the palatalization surfaces at a specific point in the CV boundary as a consonant at a boundary searches for the place of articulation.

Basque has two forms of the hypocoristic. One of which is the suffix *-ko*. This behaves much like the suffix -y in English: Bill → Billy compared to Ene → Eneko (further discussion in Zaratiegi and Izko, 2014). The focus of this paper is on expressive palatalization, more commonly referred to as hypocoristics in the literature. This is the process of expressing feelings of affection, cuteness, or small size as enacted by the speaker. The other is a means of palatalization. An example of this is seen in example (1):

(1) Ni-re neska Ni-re neʃka
my-POSSESSIVE girl my-POSSESSIVE girl-DIM.
My girl My girl (affectionate)

To express the feelings of affection for the girl, a speaker must add the feature [+palatal] to the word which surfaces on the optimal consonantal candidate. Here, the palatal is expressed on the sibilant. This is not the only place the diminutive can occur. Further pairs of this include [euskalduna] and [euʃkalduna] for "Basque person", the name [doanes] and [ɟoanes], and [aita]/ [aica] for "father" (Corum, 1972, Hualde et al., 2010). Each of these pairs introduces a sense of familiarity and fondness expressed through the diminutive.

This process of expressive palatalization follows a set of rules in the derivation process. In order to account for this process, I propose an Optimality Theory (OT) analysis to analyze the forms that surface and the unaccounted forms. For this to work, I operate under the assumption that the expressive diminutive morpheme is the feature [+palatal] that attaches itself to a candidate laid out by OT. Since the derivation follows complex ordering of the consonants, I rely on an autosegmental approach to base my constraints.

My secondary goal in this paper is to demonstrate the effects of common use of the palatal diminutive in Basque. People often share special bonds with the animals around them. Take this fact one step further: if you want to show the closeness of you and your animals, you would show this with the hypocoristic form. I examine the evidence from Basque animal names to show that this process happened so often that the diminutive effect was semantically bleached and that the current word used for these animals is what was once a specialized form.

The order of this paper is as follows. In section 2 I provide the data to show how the palatalization process works in Basque. In section 3 I propose my OT analysis. In section 4 I examine animal names to demonstrate the use of the palatal diminutive and to propose an internal reconstruction of animal names. In section 5 I conclude.

2. The expressive palatal – rules and usage

2.1. The emergence of the palatal

As stated previously, this is entirely distinct from palatalization triggered by a phonological environment. Data presented in grammars and textbooks show that there are predictable environments where allophonic palatalization must occur (King, 1994). More recent work

provides consonant skeletons and autosegmental explanations for the more specific and dialectal variants (Bérces and Ulfsbjorninn, 2022).

The focus of this paper is the manipulation of a well-formed output to produce a distinct semantic change. I propose that the feature [+palatal] is added to the stem to express the diminutive. There are specific rules that determine where the palatal feature surfaces in a word when the diminutive is formed. The rules are laid out in total with examples taken from Rijk's grammar of Standard Basque (2007).

One natural class for palatalization is the sibilant category. Basque has four phonemic sibilants with palatal counterparts. These are /s/, /s̻/, /ts/ and /ts̻/. The fricatives, each appearing as either voiced or voiceless allophones, both correspond to [ʃ] (allophonic voicing has no effect as [ʒ] does not appear in Basque). The affricates and their voiced allophones both appear as [tʃ] ([dʒ] does not appear in Basque). Orthographically, /s/ corresponds to "s", /s̻/ corresponds to "z" and /ʃ/ corresponds to "x". Thus /ts/ is "ts", /ts̻/ is "tz", and [tʃ] as "tx".

(2) (Rijk, 2007)

gizon → gixon	zoro → xoro	seme → xeme
[gis̻on] → [giʃon]	[s̻oro] → [ʃoro]	[seme] → [ʃeme]
man → little fellow	crazy →foolish	son → sonny

The other candidate for palatalization is a dental consonant that has a counterpart for manner of articulation in the palatal category. Basque also has four of these. These include /t/, /d/, /n/, and /l/. These sounds become [c], [ɟ], [ɲ], and [ʎ], respectively. These letters in the orthography are represented such that "t" is [t] and "tt" is [c], "d" is [d] and "dd" is [ɟ], "n" is [n] and "ñ" is [ɲ], and "l" is [l] and "ll" is [ʎ].

(3) (Rijk, 2007)

tontor → ttonttor	eder → edder	lapur → llapur
[tontor] → [concor]	[eder] → [eɟer]	[lapur] →[ʎapur]
peak → hump	beautiful → lovely	thief → rascal

The descriptive challenge is when both a sibilant and a dental consonant are present in the same word. The sibilant is the only candidate that becomes [+palatal] and the dental consonant, which is a candidate for palatalization, is ignored. Return to example [1]: the word "neska" [neska] becomes "nexka" [neʃka], never *[ɲeʃka] or *[ɲeska]. The word "euskalduna" also surfaces as [euʃkalduna], never *[euʃkaʎɟuɲa], *[euʃkaʎɟuna], *[euskaʎɟuɲa], or any of the other possibilities. Taking it one step further, if there is a dental obstruent and a dental sonorant in the same word, only the obstruent will become palatalized. Finally, if both [n] and [l] are present in a word, then only the leftmost sonorant becomes [+palatal].

These data show that my analysis must account for two things. First, it must account for sibilants being palatalized over dental consonants. Second, it must account for the difference in sonorant ordering. I present my constraint ranking and an explanation using autosegmental analysis in section 3.

2.2. The expressive palatal and its potential presence in animal names

The expressive palatal is a highly productive aspect of Basque often used by Basque speakers for pet names and the diminutive alike (Salaberri, 2004 and Salaberri and Salaberri, 2014). Everyday words in these two studies have been paired with the hypocoristic transformation so often that the hypocoristic becomes the standard form. Even names that were once marked as being "pet names" are now the standard form. Zaratiegi and Izko present the names *Pello* and *Patxi* as two such cases (2014). The original form of these names would have been *Pelo* ([pelo] → [peʎo]) and *Frantzisko* ([frantsi̪] → [frantʃi] → pantʃi]).[1]

A marked form replacing the standard usage of a word is a documented case in historical linguistics. This is known as Kuryłowicz's 4th law of analogy. This law states that "When the old (non-analogical) form and the new (analogical) form are both in use, the former remains in secondary function and the latter takes the basic function" (1947). The above data make this distinction clear. The form *Patxi* is a standard form in the language (and is the name of one of the authors) while the base form, *Frantzisko*, is now a name that has been given a more formal application. Compare this with German *Nikolaus* > *Klaus.* Or English *William* > *Bill*. Either form is acceptable, but the nickname has now become the standard form and the name base becomes something more serious.

The inverse of this happened in Old English. The term *dogge* originally was used to denote a dog of immense power and stature. Now the word *dog* refers to the entire scope of the animal (Crowley and Bowern, 2010). This book also explains that the Old English word *bride* – young birds still in the nest – became *bird* and started referring to the entire species. There are certain animal names in Basque that contain palatal sounds. I propose that hypocoristic forms in Basque have replaced the standard form operating under Kuryłowicz's 4th law of analogy. In other words, speakers start with an animal name, they palatalize it to refer to something small, cute, or endeared, and use this so much that it becomes semantically bleached into the standard form. Now what was originally a particularly small or cute animal is now a prototypical version of the animal. I argue that current words in Basque have undergone the same changes that Old English went through. My analysis in section three will lay the groundwork for this claim and I will further apply this to internal reconstruction in section 4.

3. An Optimality Theory account for palatalization

I will be analyzing expressive palatalization under an Optimality Theory approach (Prince and Smolensky, 1993). As stated in section 2, an Optimality Theory approach to the expressive palatal needs to account for two things: the preference for sibilants over dental consonants, and the apparent hierarchy found in dental consonants.

Before presenting constraints, I investigate the behavior of the dental consonants compared to the sibilants. While all sibilants in a word become palatalized under the expressive diminutives, there is a hierarchical order present for the dental consonants. Examples from Zubiri (2002), Rijk (2007), Salaberri, (2004) and Salaberri and Salaberri, (2014).

[1] Zaratiegi and Izko cite that *[f] > *[p] in Middle Basque and that this change also deleted the [r].

(4) (Rijk, 2007; Zubiri, 2002; Salaberri and Salaberri, 2014)
[t] and [d] take priority over [n] and all instances of the consonant become the palatal counterpart.

Standard	**Diminutive**
[kontua] 'account'	[koncua] 'account (dim)'
[tontor] 'peak'	[concor] 'hill'
[dominika] 'Dominika'	[ɟominika] 'Dominika (nickname)'

(5) (Salaberri, 2003)

Standard	**Diminutive**
(a) [ana] 'Ana (name)'	[aɲa] 'Anna (nickname)'
(b) [lo] 'sleep'	[ʎo] 'asleep'
(c) [poloni] 'Poloni (name)'	[poʎoni] 'Polloni (nickname)'
(d) [manuel] 'Manuel (name)'	[maɲuel] 'Mannuel (nickname)'

The consonant [n] is palatalized if there are no other candidates present in the word (5a), otherwise it is ignored if [t] or [d] have already become palatalized[2]. The consonant [l] is palatalized if no other candidates are present in the word (5b) but is again disfavored with respect to [t] and [d]. However, there are cases where [l] and [n] are both present (5c, d) yet one becomes palatal and the other does not. Salaberri also notes that palatalizing [l] is habitually less common than [n] among speakers. I propose a hierarchy for palatalization of the coronal consonants below in example (6).

(6) Hierarchy of Coronal Palatalization (HCP)
[s], [s̪], [ts] [ts̪] >> [t], [d] >> {[l], [n]}

All sibilants in a word take priority for palatalization. If none are present, then all dental obstruents in a word are palatalized. If none are present, then one sonorant at the leftmost edge is chosen as a candidate. To motivate the leftmost edge theory, I rely on Bérces and Ulfsbjorninn (2022), which provides an autosegmental account of phonological palatalization. The same process applies in the dental sonorants when realizing the hypocoristic morpheme [+palatal].

Bérces and Ulfsbjorninn (2022) argue that in the underlying form in the skeleton, both [l] and [n] appear as underspecified coronal sonorants, [L] and [N]. Once one of these consonants are in the proper environment (to the right of [i] or [j]) they become [ʎ] and [ɲ]. This leftward spreading occurs along the prosodic word from left to right. While the underspecification does not apply to hypocoristic formation (because I am dealing with a well-formed output with specified places of articulation), the notion of the dental sonorants only being palatalized at the leftmost edge still applies.

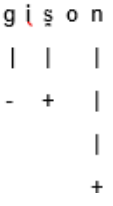
This palatalization is initiated from the diminutive morpheme [+palatal] and will attach to a coronal candidate from one of three tiers indicated by the hierarchy in (6). The diminutive morpheme [+palatal] must be realized on a coronal consonant with a palatal counterpart in the phonetic inventory. These are indicated below in (7) with either a "-" if no palatal counterpart exists or a "+" is the inventory has one. It will attach to all sibilants in the prosodic word on the first tier if available, the dental obstruents in the second tier, and the dental sonorants in the

[2] Salaberri notes that in the eastern dialect, [n] is palatalized over [d].

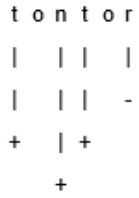
third tier. (If nothing in the HCP is present, then a suffix is chosen from the list provided by Salaberri and Salaberri (2014)). In the case of [l] and [n], only the leftmost coronal sonorant is palatalized (these will be specified since hypocoristics deal with a well-formed output). Example [7] shows how this tier system operates in the language.

(7)

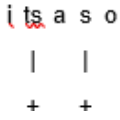
a. /[+palatal] +[gis̪on]/ = [giʃon]



b. /[+palatal] + [tontor]/ = [concor]



c. /[+palatal] + [itsaso]/ = [itʃaso]



d. /[+palatal] + [poloni]/ = [poʎoni]

e. /[+palatal] + [manuel][3]/ = [maɲuel]

(7a) shows an example of the sibilant tier beating out the dental obstruent tier. The sibilant appears higher up on the autosegmental plane, so it is the only eligible coronal that becomes palatalized. Example (7b) shows an example of dental obstruents beating out dental sonorants. [t] is higher on the plain than [n], so the two eligible dental obstruents are palatalized. The autosegmental analysis also shows that a markedness constraint to prohibit *[coɲcor] would not require a CODACOND family of constraints because the [t] and [n] are on different tiers and can never be palatalized together (Ito, 1989). Example (7c) shows a word with more than one eligible candidate on the same tier being palatalized. Examples (7d) and (7e) show a case of

[3] While syllabification does not appear to be an issue here, narrow transcription of the Basque name "Manuel" is [ma.nu.(w)el]

the only candidates being the two different dental sonorants, and the leftmost candidate being the only one palatalized.

Given the HCP in (6) and the examples in (7), I can form my list of constraints and provide their overall ranking to handle any of the four types of words seen in (8) and (9).

(8) Markedness Constraints

Constraint	**Assign a violation mark for every…**
(a)*SIBILANT$_{alveolar}$ (*SIB$_{alv}$)	…alveolar sibilant present in the output.
(b)*OBSTRUENT$_{dental}$ (*OBS$_{den}$):	… dental obstruent present in the output.
(c)*SONORANT$_{dental}$ (*SON$_{den}$)	…dental sonorant present in the output.

(9) Faithfulness constraints

Constraint	**Assign a violation mark for every…**
(a) IDENTITY-SD-palatal	… segment that does not match its correspondent for [palatal].
(b) REALIZEMORPHEME	… morpheme not realized in the output.
(c) LEFTMOST	… feature change not found at the left-most edge.

The constraint ranking to account for sibilant palatalization is *SIB$_{alv}$ >> IDEN(TITY)-SD-palatal. There are two alveolar sibilants present in the input and both are palatalized in the optimal candidate (10d). Palatalizing only one of the sibilants (10b, c) maintains a fatal violation of markedness.

(10) *SIB$_{alv}$ >> IDENT-SD-palatal

/[+palatal] + itsaso/	*SIB$_{alv}$	IDEN-SD-palatal
a. itsaso	*!*	
b. itʃaso	*!	*
c. itsaʃo	*!	*
→ d. itʃaʃo		**

Candidate (10a) introduces the next constraint. Example (10) takes for granted that the [+palatal] morpheme will be realized in the diminutive. The sibilants are the hosts for palatalization in *itsaso*, but this extra-phonological change requires more motivation. The constraint REALIZEMORPHEME (Ito and Mester, 2003:4) ensures that [+palatal] is realized somewhere in the word further motivate the violations of [11a].

(11) REALIZEMORPHEME >> IDENT-SD-palatal

/[+palatal] + itsaso/	REALIZEMORPHEME	*SIB$_{alv}$	IDENTITY-SD-palatal
(a) itsaso	*!	*!*	
(b) itʃaso		*!	*
(c) itsaʃo		*!	*
→ (d) itʃaʃo			**

The constraint ranking in (11) requires the morpheme to surface somewhere in the word at the expense of faithfulness to the [palatal] feature. REALIZEMORPHEME is not ranked with respect to *SIB$_{alv}$.

Knowing that *SIB_{alv} >> IDENT-SD-palatal, I can extend this ranking to both *OBS_{den} and *SON_{den}. In order for palatalization to occur, these two markedness constraints must also outrank IDENT-SD-palatal as demonstrated in example (12) and (13).

(12) *OBS_{den} >> IDENT-SD-palatal.

/[+palatal] + [tontor]/	*OBS_{den}	IDEN-SD-palatal
(a) [tontor]	**!	
→ (b) [concor]		**
(c) [toncor]	*!	*
(d) [contor]	*!	*

(13) *SON_{den} >> IDENT-SD-palatal

/[+palatal] + [lapur]/	*SON_{den}	IDEN-SD-palatal
(a) [lapur]	*!	
→ (b)[ʎapur]		*

Examples (12) and (13) further show that IDEN-SD-palatal is always being violated when the expressive palatal is realized in the stem. Ranking among the individual markedness constraints is determined by the HCP. When a word has multiple candidates for palatalization (such as *mesedez* in (14) *gizon* in (15) and *contua* in (16)), only the highest candidate among the hierarchy hosts the palatal feature.

(14) *SIB_{cor} >> *OBS_{den}

/[+palatal] + [mesedes̪]/	REALIZEMORPHEME	*SIB_{alv}	*SON_{den}	IDEN-SD-palatal
(a) [mesedes̪]	*!	**	*	
(b) [mesedeʃ]		*	*	*
(c) → [meʃedeʃ]			*	**
(d) [meseɟes̪]		**!		*

(15) *SIB_{cor} >> *SON_{den}

/[+palatal] + [gis̪on]/	REALIZEMORPHEME	*SIB_{alv}	*SON_{den}	IDEN-SD-palatal
(a) [gis̪on]	*!	*	*	
→(b) [giʃon]			*	*
(c) [giʃoɲ]				**
(d) [gis̪oɲ]		*!		*

(16) *OBS_{den} >> *SON_{den}

/[+palatal] + [kontua]/	REALIZEMORPHEME	*SIB_{alv}	*OBS_{den}	*SON_{den}	IDEN-SD-palatal
(a) [kontua]	*!		*	*	
→(b) [koncua]				*	*
(c) [koɲcua]					**
(d) [koɲcua]			*!		*

The rankings of the markedness constraints given in example (14)-(16) match the structure of the HCP which is further enforced by the ranking of REALIZEMORPHEME over IDEN-SD-palatal. REALIZEMORPHEME remains unranked at the top of the constraint list to enforce the

morpheme surfacing in the word. The consonant on which the palatal suffix surfaces is determined by the constraint ranking beneath it.

The final type of change is the type seen in examples (7d) and (7e) when there are two different eligible dental sonorants but only the leftmost is palatalized. In this scenario, the constraint LEFTMOST determines which consonant hosts the [palatal] feature.

(17) LEFTMOST >> *SON_{den} >> IDEN-SD-palatal

/[+palatal] + [poloni]/	REALIZEMORPHEME	LEFTMOST	*SON_{den}	IDEN-SD-palatal
(a) [poloni]	*!		**	
→ (b) [poʎoni]			*	*
(c) [poloɲi]		*!	*	*
(d) [poʎoɲi]		*!		**

The effects of LEFTMOST are seen in (17c) and (17d). Because the morpheme appeared on consonants other than the left-most available host, these candidates are harmonically bounded by (17b) and will never surface in speech. Reusing the words *itsaso* in example (18) and *tontor* in example (19) show that the effects of LEFTMOST are only within the domain of the dental sonorants.

(18) *SIB_{alv} >> LEFTMOST

/[+palatal] + itsaso/	REALIZEMORPHEME	*SIB_{alv}	LEFTMOST	*SON_{den}	IDEN-SD-palatal
(a) itsaso	*!	*!*			
(b) itʃaso		*!			*
(c) itsaʃo		*!	*		*
→ (d) itʃaʃo			*		**

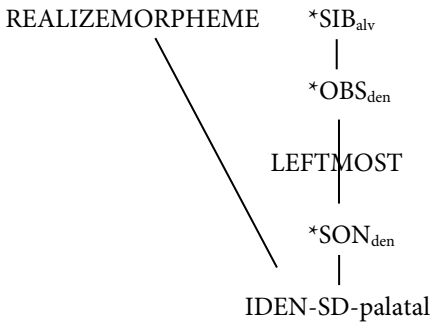
The useful loser in this example is (18b). This candidate satisfies LEFTMOST but suffers a fatal violation of *SIB_{alv}. Thus, in the sibilant tier it matters more that all sibilants change to become [+palatal] than only the host at the leftmost edge becomes [+palatal]. In tableau (19) below I organize as a comparative tableau as it provides the final ranking argument along with the complete ranking hierarchy.

(19) Final ranking argument: *OBS_{den} >> LEFTMOST

/[+palatal] + [tontor]/	REALMORPH	*SIB_{alv}	*OBS_{den}	LEFTMOST	*SON_{den}	IDEN-SD-palatal
(a) [tontor]	*!W		**!W	L	*	
→ (b) [concor]				*	*	**
(c) [toncor]			*!W	*	*	*
(d) [contor]			*!W	*	*	*
(e) [coɲcor]				**!W	L	

Candidate (19a) which has two dental obstruents but satisfies LEFTMOST proves the ranking. The overall ranking argument is presented in a Hasse diagram in example (20) below.

(20) Final ranking argument
REALIZEMORPHEME, *SIB_{alv} >> *OBS_{den} >> LEFTMOST >> *SON_{den} >> IDEN-SD-palatal



In this section I have presented an Optimality Theory analysis of the expressive palatal feature in Basque. I have shown that the feature [+palatal] must be realized within the word for the effect to be pronounced. The host of the [palatal] morpheme is determined by the Hierarchy of Coronal Palatalization which in turn determines the constraint ranking: all sibilants in a word, all dental obstruents in a word, and the left-most dental sonorant in a word. These changes are all at the expense of faithfulness to the [palatal] feature.

4. Internal reconstruction of Basque animal names effected by palatalization

4.1. Basque animal names

I can apply the hierarchy given in section 3 to different words in Basque to facilitate the internal reconstruction of Basque animal words. I choose animal terms for two reasons. The first is in support of reconstructions from Bengston (2017) along the principle of Kuryłowicz's fourth law of analogy. The second is that humans and animals have had a close relationship for millennia and I imagine that the list of animal terms would be a good place to look for the expressive diminutive.

I start my search with a list of animal terms in Basque. Below is a list of 15 different terms for animals with Basque on the right and English on the left. I mark them with numbers 1, 2, and 3. 1 means that they have no palatalization candidates and would instead receive one of the many suffixes listed in Salaberri and Salaberri (2014). 2 means that they have palatalizable candidates but show no evidence of hypocoristic palatalization. 3 means that they contain one of the possible results of palatalization (Rijk, 2007).

(21)

[2]Bear – hartza
[3]Bird – Txoria
[3]Butterfly – Pinpillinnpauxa
[2]Cat – Katua
[1]Cow – Behia
[3]Dog – Txakurra
[2]Donkey – Astoa
[2]Eagle – Arrano
[2]Elephant – Elefantea
[2]Goat – Ahuntza
[2]Horse – Zaldia
[2]Lion – Lehola
[3]Monkey – Tximinoa
[3]Mosquito – Eitxoa
[2]Mouse – Sagua
[3]Rabbit – Untxia
[2]Sheep – Ardia
[2]Snake – Sugea
[1]Spider – Armiarma
[2]Tiger – Tigrea

Only "cow" and "spider" are removed from the list of candidates here. They have no consonants with a palatal counterpart for place of articulation. There are several names for animals that have consonants that can be palatalized, such as "cat" *katua* → *kattua* or "eagle" *arrano* → *arraño*. Six of these words are potential cases for palatalization overtaking the standard form of the word. These words are "dog" *txakurra*, "bird" *txorria,* "butterfly" *pinpillinpauxa*, "monkey" *tximinoa,* "rabbit" *untxia,* and "mosquito" *eitxoa*. Assuming the analysis from section 3, internal reconstruction needs to undo the palatalization of the highest available candidate in the hierarchy. This only provides me with one solution for each of these words.

I am supplying two facts about the Basque language to aid my word list. The first is that all the words in the above list have two morphemes. They all end in *-a* which is the definite article. *txorria*: the bird, *txori*: bird. The second is a method of internal reconstruction. Historical work on Basque as of 2022 has gathered enough evidence to state that the affricates in Basque can all be reasonably reconstructed as fricatives (Bengston 2017, Hualde 2021).

txakur,txorri, tximino: [tʃ] can only come from [s] or [s̻]. pre-Basque would be either **[sakur]/[s̻akur], **[soria]/[s̻oria], and **[simino/s̻imino].

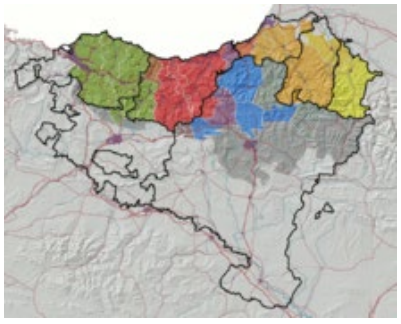
pinpillinpauxa: Expressive palatalization of the [l] would be a violation of LEFTMOST and therefore the presence of [ʎ] must be for some other reason. Therefore, the expected pre-Basque form is **[pinpiʎinpausa].

untxi, eitxo: following the resoning of previous examples, the expected results are **[unsi]/[uns̻i] and **[eiso]/[eis̻o].

4.2. Internal reconstruction

Normally with language reconstruction, linguists take data from existing languages in the language family and compare the word forms to determine the proto form given evidence from phonological change. With language isolates like Basque, there are no other language family members to compare the language to. Linguists then rely on internal reconstruction, where evidence is compared between dialects. Basque has six dialects shown in the map below in (22).

(22) (Zuozo, 2009)



The Green corresponds to the Biscayan dialect (western). Red is the Gipuzkoan dialect (central). Blue is Upper Navarrese (Northern and Southern). Orange is Lower-Navarrese and Lapurdian (Eastern and Western). Yellow is the Souletin dialect. The dark gray is any other Basque area where there is too much overlap to grant any one label.

The dialect that will support internal construction the most is the Lapurdian dialect. This dialect of Basque has been standardized since the 17th century after translating the Bible into Basque as worked by P. Axular. The priest's work is described by Basque language enthusiasts as being "the most elegant and sophisticated language ever used in Basque" (Alvarez et al., 2015). This much more conservative version of the language is in contrast with the Gipuzkoan dialect, which is the most liberal dialect of the language with the largest number of speakers. Lapurdian will be the dialect that most closely preserves the old forms to confirm my hypothesis.

Euskararen Herri Hizkeren Atlasa (2010), provides a corpus of different words in the different dialects of the region. Comparing the location of the dots to the map provided by Zuozo (2009), my analysis is able to account for five of the six possible internal reconstructions. There is no available data for *tximinoa* to support my hypothesis given by *Atlasa.* Each chart lists the forms as they appear in their orthographic forms.

(23) Animal terms across the Basque dialects

Word	**Biscayan**	**Gipuzkoan**	**U. Navarrese**	**L. Navarrese**	**Lapurdian**	**Souletin**
'bird'	txori	txori	txori (txore)	xori	zori	txori
'butterfly'	mariposa	txipeleta	mariposa	pimpilin(pauxa) papillun	papillun	papillun
'dog'	txakur	txakur	zakur (tzakur)	xakur	zakur	txakur (xakur)
'mosquito'	geltxo/eltxu	eltxo	eltxo/ulitx	ulintx	ulitz	eltxo
'bunny	konexo	konexu	konexu	lapin	llapi	untxi

Unfortunately, there are only two words given in *Atlasa* that correspond to the dictionary entries for these animal terms. There was no data for *tximinoa*, so this is unincluded entirely. The word for "bunny" appears to shift between loanwords in French (*lapin*) and Spanish (*conejo*). The Souletin dialect is the only one that has "untxi" and there is no motivation to reconstruct anything.

The word for "butterfly" also poses an interesting problem. Spanish and French have clearly had their influences here (French *papillon* and Spanish *mariposa*). The Lower Navarrese dialect includes [pimpilin] with an optional [pauʃa] at the end due to truncation. This hints at the [l] → [ʎ] change, but more data is needed to make a comfortable assertion of **[pinpilinpauʃa].

The word for "mosquito" allows me to reconstruct **[ulitz]. There are three forms that all look almost identical, except for Lower Navarrese having the epenthetic [n]. Otherwise, based off Lapurdian having the oldest language and using the HCP that I propose, this supports my hypothesis.

The words for "dog" and "bird" both behave the same way, which is expected given that they both currently start with [tʃ] and with the information taken from Hualde (2021). I propose **[s̪akur] which supports and is supported by Bengston (2017) and Hualde (2022) most recently. In support of this as well, [s̪akur] is in Basque dictionaries as "originally from dog" followed by "hound". This follows Kuryłowicz's 4th law of analogy: what was once the standard form has now become a marked term with a specific definition. "txori" also then is reconstructed as **[s̪ori].

While there was not enough data to reconstruct all words, I do hope that these findings will lead to more internal reconstructions in the future. Expanding the search beyond just animal names to any word in Basque that has one of the palatal sounds listed can potentially lead to more cases of the hypocoristic form overtaking the standard form.

5. Conclusion

I have presented an Optimality Theory approach guided by autosegmental phonology to show how the expressive palatal is formed in Basque. I present a constraint ranking to account for the complex ordering of obstruents and sonorants. The consonants with palatal consonants will appear on different tiers and the [+palatal] feature will apply only to the one highest up on the tier or furthest to the left of the phonological word.

I also conducted an internal reconstruction to investigate the extent of the palatalization process in Basque. I found two conclusive internal reconstructions, one of which is contested in the literature. The others are not attested in the dialect maps. While one of these cases is already attested in the literature, this study will hopefully lead to more cases of internal reconstruction uncovered through the palatalization hierarchy. With enough tokens of hypocoristics surfacing in Basque, it is not unlikely that the standard pronunciation seen across dialects will involve one of these palatalized consonants. Perhaps as time goes on, more of these animal names will become palatalized through expressive palatalization and more cases like *txakurra* will surface.

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