Simplifying complexities: Analyzing palatal lateral change in Occitan as coda simplification

OVERVIEW: Traditionally, palatal consonants have been argued to have a single subsegmental representation (e.g. Petrosino & Calabrese, 2022) and have been analyzed using frameworks such as feature geometry (e.g. Lipski, 1989) and element theory (e.g. Backley, 2011) to encapsulate processes that are applied to these complex segments. In this study, however, we propose that such processes can in fact be influenced by syllable structure rather than features of adjacent segments. Thus, we postulate that some language varieties treat these phonemes as two subsegmental segments, which phonetic data suggest (Recasens, 1990), rather than one.

BACKGROUND: Here, we focus on /ʎ/ as opposed to other palatal consonants because it is highly active in the phonology of many Romance varieties (e.g. Spanish: Colantoni, 2004; Italian: Bladon & Carbonaro, 1978; Franco-Provençal: Kasstan & Müller, 2017), and it is difficult to articulate exclusively in the palatal zone (Recasens, 2013) which may lead to rampant variation in its production. /ʎ/ is also frequently realized with an accompanying glide (e.g. [ʎj]; Zampaulo, 2015) which may then plausibly be reinterpreted as a separate segment, given that synchronic perception may lead to diachronic sound change (e.g. Ohala, 2003).

Whereas much of the work on the loss of the palatal lateral phoneme has focused on the phenomenon of *yeismo* in Spanish (e.g. Lipski, 1989; Colantoni, 2004; Zampaulo, 2019), this study focuses on two varieties of Occitan: Gascon and Languedocien. In Gascon, /ʎ/ is being replaced with [j] (1 and 2), presumably due to contact with French (Mooney & Hawkey, 2018).

(1) /miraʎ/ [miraj] *miralh* ‘mirror’
(2) /pɔraʎɛra/ [pɔrajɛra] *poralhèra* ‘henhouse’

Languedocien, however, notably retains traditional Occitan phonological features (Bec, 1973; Wheeler, 1988) and has a word-final depalatalization process (Oliviéri & Sauzet, 2016) as in (3).

(3) /miraʎ/ [miral] *miralh* ‘mirror’

In both varieties, /ʎ/ is retained in all word positions where the phoneme arose via changes from Latin (Müller, 2011). Here, we probe whether the diverging patterns of change in these varieties may indicate that their speakers have different subsegmental representations of /ʎ/.

DATA & GENERAL ANALYSIS: We analyze 181 tokens of /ʎ/ (Table 1) in oral narratives performed by Gascon and Languedocien speakers in the *OcOr Corpus* (Vergez-Couret & Carruthers, 2018). There is one speaker of each gender per variety, and all speak both French and Occitan. Each token was impressionistically marked in *Praat* as either a glide [j], a lateral [ʎ l], or a both [ʎj lj]. We classified laterals with low F1 (approx. 450 Hz and below) as [ʎ] and those with high F1 (approx. 550 Hz and above) as [l] because [ʎ] phones are characterized by low F1 (e.g. Colantoni, 2004; Tabain et al, 2014). In our data set, /ʎ/ is never adjacent to a consonant word-initially or word-medially, and no word-initial tokens were followed by a non-palatal vowel.

	Word-initial	**Intervocalic**				**Word-final**			
	#_I	**I_I**	**I_V**	**V_I**	**V_V**	**I_#**	**V_#**	**I_s#**	**V_s#**
Gascon	[ʎj] 7 [lj] 1	[ʎj] 2 [j] 2	[j] 7 [ʎj] 5 [lj] 1	[ʎj] 27 [lj] 4 [ʎ] 1 [j] 1	[ʎj] 16 [lj] 3	[j] 2	[ʎj] 2 [j] 2	[ʎj] 1 [j] 1	[lj] 1
Languedocien	None	[ʎj] 3	[ʎj] 40 [ʎ] 1 [l] 1 [j] 1	[lj] 1	[ʎj] 8 [l] 3 [lj] 1 [j] 1	[ʎ] 9 [l] 9 [ʎj] 3 [lj] 1 [j] 1	[l] 5 [lj] 1 [j] 1	[ʎ] 4 [l] 1	None

Table 1 Token distribution by variety and phonological context. **I** denotes /i e/; **V** denotes all other vowels

We find that [j] is more frequent in Gascon than Languedocien, which is consistent with previous accounts of /ʎ/ loss in Gascon (Mooney & Hawkey, 2018). Additionally, [j] is more frequent in Gascon if the preceding vowel is palatal, as is also the case for Spanish *yeismo* (e.g. Lipski, 1989). Although we do observe word-final depalatalization in Languedocien, phonetic analysis allows us to observe that about half of the lateral tokens are, in fact, palatal. We also observe that the Languedocien speakers in our data set do not pronounce [s] in tokens of nominal plurals which end in /s/, despite that word-final clusters are permissible for nominal plurals in Languedocien (Oliviéri & Sauzet, 2016). The Gascon speakers, however, produced tokens of this kind with a pronounced [s]. Given that Languedocien generally does not permit word-final clusters except with nominal plurals and Gascon does (Oliviéri & Sauzet, 2016), we explored a subsample of tokens that end in complex codas. By doing so, we confirm that the Languedocien speakers in our data set have a process of coda simplification, while Gascon speakers do not (4).

(4) /dɔnk/ *donc* 'therefore' **Gascon** [dɔnk] **Languedocien** [dɔn]

In our Languedocien data, however, segments which are part of complex codas may remain if they are re-syllabified into the following word (5 and 6; neither *dins* nor *jusqu'ins* are nominal).

(5) /dins tuts/ [din.tut] *dins tots* 'in all'

(6) /ʒyskins al/ [ʒy.skin.sal] *jusqu'ins al* 'until the [morning]'

To our knowledge, cross-word resyllabification has not been attested in either Occitan variety.

PHONOLOGICAL ANALYSIS: Our data suggest that the depalatalization process described in the literature on Languedocien does not fully capture what occurs when /ʎ/ is word-final; [ʎ] is produced nearly as often as [l]. Rather, we propose that treating /ʎ/ in Languedocien as two segments rather than a single complex segment allows this process to be included in coda simplification. We demonstrate this below using a CVCV analysis which allows us to observe the influence of syllabic position on the spoken realization.

C	V	C	V	C	V
|	|	|	|	|	|
d	ɔ	n	Ø	k	Ø

/dɔnk/ *donc* 'therefore'

C	V	C	V	C	V	C	V
|	|	|	|	|	|	|	|
s	ɔ	l	ɛ	ʎ	Ø	j	Ø

/sɔlɛʎj/ *solelh* 'sun'

We see in both analyses that the final consonantal segment is deleted (blue) as a repair mechanism because the Empty Category Principle (Kaye et al., 1990) is violated. Although /ʎ/ did not form in word-medial coda positions or complex onsets during Occitan's development from Latin (see Petrosino & Calabrese, 2022), /lj/ is a permissible onset in Occitan varieties (e.g. /ljɔn/ *leon* 'lion'). Therefore, the vowel which follows [j] would govern the empty nucleus before [j] in a CVCV analysis, thus it would not violate the Empty Category Principle. Continuing with our analysis of Languedocien, four of the five word-final tokens that included both a lateral and glide segment occurred before a word that begins with a vowel. We show in the analysis below that in [ʎj] tokens [j] re-syllabifies into the following word (red) just as other word-final complex codas do, further suggesting that /ʎ/ may actually be two subsegments /ʎj/ in Languedocien.

C	V	C	V	C	V	C	V	C	V	C	V
|	|	|	|	|	|	|	|	|	|	|	|
ʒ	y	s	Ø	k	i	n	Ø	s	a	l	Ø

/ʒyskins al/ *jusqu'ins al* 'until the [morning]'

C	V	C	V	C	V	C	V
|	|	|	|	|	|	|	|
v	Ø	j	ɛ	ʎ	Ø	j	i

/vjɛʎj i/ *vièlh i* 'old he [says]'

CONCLUSION: We demonstrate here that Languedocien's depalatalization rule can be reanalyzed as one of coda simplification. This presentation: (a) offers a phonological analysis of palatal lateral loss in modern varieties of Occitan, which is the first to our knowledge, (b) gives further insight regarding how phonetic cues may lead to phonological change, and (c) suggests that complex segments such as /ʎ/ may be reinterpreted as two separate phonological segments.