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# On Catalan as a Minority Language: The Case of Catalan Laterals in Barcelonan Spanish

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## Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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## Abstract

This investigation examines the variable production of alveolar laterals in Barcelonan Spanish as a case study evidencing the effects of language contact between a majority language, Spanish, and minority language, Catalan. The Catalan-Spanish speech community constitutes a rather unique case of majority-minority language contact, particularly within the Spanish-speaking world, as Catalan, though a minority language in Spain, is characterized by such a high degree of linguistic vitality, linguistic capital, and social prestige in the autonomous region of Catalonia, that its status as a minority language is to a degree, questionable. I account for sociophonetic variability in the production of Barcelonan Spanish /l/ by a set of linguistic (phonological context, cognate status) and social factors (gender, age, style, language dominance) that support an analysis of lateral velarization as contact-induced and situate this case of language contact as a natural or otherwise predictable outcome of this community's sociolinguistic and sociodemographic history, notably concerning changes in immigration patterns, language ideologies, and language use in the last century. Additionally, I highlight how the gradient nature of select sociophonetic variables uniquely conditions nuanced social indexation in the speech community, specifically in the absence of any one singular or discrete, community-wide acoustic variant.

**Keywords**: Catalan-Spanish contact, Lateral velarization, Majority-minority language contact, Sociophonetics, Gradient sociolinguistic variable

## Abstracte

Aquesta investigació s'enfoca en la producció variable de les laterals alveolars en el castellà barcelonès, amb l'objectiu de demostrar els efectes del contacte lingüístic entre una llengua majoritària, el castellà, i una llengua minoritària, el català. La comunitat de parlants de català-castellà exemplifica un cas únic de contacte lingüístic majoritari-minoritari, especialment dins el món castellà-parlant, ja que el català, tot i que es una llengua minoritària a Espanya, es caracteritza per un nivell tan alt de vitalitat lingüística, capital lingüístic, i prestigi social dins la comunitat autòctona de Catalunya, que el seu estatus com a llengua minoritària al final no queda tan clar. Justifico la variabilitat sociofonètica de la producció de /l/ en el castellà barcelonès amb un grup de factors lingüístics (context fonològic, estatus de cognat) i socials (sexe, edat, estil, perfil lingüístic) que corrobora un anàlisi de la velarització lateral com a fenomen de contacte lingüístic, així demostrant que els productes lingüístics d'aquest cas de contacte són naturals i a més previsibles a partir de la història sociolingüística i sociodemogràfica de la comunitat, en particular pel que fa a uns canvis de la immigració, les ideologies lingüístiques, i el usos lingüístics del últim segle. A més, destaco com és que la qualitat contínua de certes variables sociofonètiques condiciona els seus vincles socials dins la comunitat de parlants, específicament en l'absència d'una variant acústica discreta o singular de la comunitat.

**Paraules clau**: Contacte català-castellà, Velarització lateral, Contacte lingüístic majoritari-minoritari, Sociofonètica, Variable sociolingüística contínua

## 1. Introduction

This investigation examines the variable production of alveolar laterals in Barcelonan Spanish as a case study evidencing the effects of language contact between a majority language, Spanish, and minority language, Catalan. The Catalan-Spanish speech community constitutes a unique case of majority-minority language contact, particularly within the Spanish-speaking world, as Catalan, though a minority language in Spain, is characterized by such a high degree of linguistic vitality, linguistic capital, and social prestige in the autonomous region of Catalonia, that its status as a minority language is to a degree, questionable. Though the majority of language contact research concerning Spanish and Catalan concerns the former's influence on the latter (Galindo-Solé, 2003, pp. 18), consistent with the expectation that socially dominant (i.e., majority) languages more strongly influence less socially dominant (i.e., minority) languages than the other way around (cf. Thomason, 2001, Thomason and Kaufman, 1988), in this study I focus on a concrete and renowned phonetic innovation in Spanish often ascribed to Catalan, namely the velarization of alveolar /l/ to a velarized [ɫ]. From a framework of variationist sociolinguistics (cf. Labov, 2001, Tagliamonte, 2012), I account for sociophonetic variability in the production of Barcelonan Spanish /l/ by a set of linguistic and social factors that support an analysis of lateral velarization as contact-induced. I further situate this case of language contact as a natural or otherwise predictable outcome of this community's sociolinguistic and sociodemographic history, notably concerning changes in immigration patterns, language ideologies, and language use in the last century. Additionally, I highlight how the gradient nature of select sociophonetic variables uniquely conditions nuanced social indexation in the speech community, specifically in the absence of any one singular or discrete, community-wide acoustic variant.

## 2. Language Contact in Catalonia

### *2.1. Language Demographics in Modern Catalonia*

For the majority of Catalonia's existence (originally constituting the Catalan-Aragonese Crown), monolingualism in Catalan has been the societal norm. The introduction of Spanish, or Catalan-Spanish bilingualism, is a relatively recent phenomenon, first introduced exclusively amongst the noble classes with the Kingdom's union with the Kingdom of Castile in 1469, and only subsequently generalized to

the greater population in the late 19th century with compulsory Spanish education laws (Vallverdú, 1984, pp. 19, Vila-Pujol, 2007, pp. 62-63). Perhaps the most notable hegemonic advancement of Spanish over Catalan took place during the 20th century dictatorship of General Francisco Franco, under whom an oppressive and fascist government led a nationalist campaign to more strongly unify Spain. Catalan was stripped of official status and outlawed as part of an explicit agenda of Castilianization forced upon all public institutions. This, in an atmosphere of Catalan book-burning, bookstore arson, and the incarceration of users of Catalan in the public sphere, effectively restricted the use of Catalan to the private spheres of family and friends until Franco's death in 1975 (Àngel Pradilla, 2001, pp. 63, Arnal, 2011, pp. 15, Newman, Trenchs-Parera, and Ng, 2008, 307, Turell Julià, 2000, pp. 47, Vallverdú, 1984, pp. 24, Vila-Pujol, 2007, pp. 64). The 1978 Spanish Constitution, marking the inauguration of a post-dictatorship democracy, declares Spanish as the only official national language of Spain, and that all Spaniards have a duty to know Spanish. Overall, as a result of the considerable changes in governmental policy since the Franco regime, particularly as related to educational reform and the active and preferential support for Catalan in the public spheres, bilingualism in Catalan and Spanish (primarily from the home) is presently the overwhelming norm in Catalonia.

Large population movements towards Catalonia (overwhelmingly to the Barcelona Metropolitan Area) by monolingual Spanish-speaking immigrants in the mid-20$^{th}$ century have dramatically increased the relative presence of Spanish in this bilingual territory. More specifically, more than two million non-Catalonian immigrants moved to Catalonia between the years of 1950 to 1975, such that by the late 1970s, over 42% of the population of Catalonia ages 6 and older were Spanish immigrants (Gifreu, 1983, pp. 298, Strubell i Trueta, 1984, pp. 92, Woolard and Gahng, 1990, pp. 314). Additionally, fewer than half of all non-Catalonian immigrants learned to speak or write in Catalan after 1950 as a result of the prohibition of Catalan during Franco's reign (Vallverdú, 1991, pp. 21). This radical shift in the linguistic demographics of Catalonia was the impetus for sweeping educational reform in the 1980s to promote the acquisition of Catalan specifically amongst the L1-Spanish population. Notably, in 1975, 83% of the population of the province of Barcelona identified themselves as having no understanding of Catalan (Consorci, 1978, as cited in Arnal, 2011, pp. 14). Only six years later, in 1981, census data reveal that this figure dropped to 21.63%, and has nearly unilaterally decreased with each subsequent census,

reaching 4.99% in 2011. The most recent linguistic census data available, for 2013, reveal that only 4.1% of L1-Spanish speakers claim no understanding of Catalan, whereas absolutely all L1-Catalan speakers, as well as speakers claiming both Catalan and Spanish as native languages, report understanding Spanish (Institut d'Estadística de Catalunya, 2014). The complete breakdown of self-reported competence in Catalan and Spanish according to native language both in the urban capital of Barcelona and in Catalonia overall (ages 15 and older) is found in table 1.

**Table 1 2013 Population (%) Ages 15+ with Competence in Catalan and Spanish by L1**

| | **Native Language** | **Understands Catalan / Spanish** | **Speaks Catalan / Spanish** | **Reads Catalan / Spanish** | **Writes Catalan / Spanish** |
|---|---|---|---|---|---|
| **Barcelona (City)** | Catalan | 100 / 100 | 100 / 100 | 99.5 / 99.7 | 87.2 / 99.7 |
| | Spanish | 95.9 / 100 | 76.9 / 100 | 81.2 / 99.2 | 51.2 / 98.4 |
| | Catalan and Spanish | 100 / 100 | 100 / 100 | 100 / 96.3 | 82.3 / 96.3 |
| | Another Language | 73.2 / 98.3 | 43.6 / 98.3 | 49.7 / 91 | 20.2 / 85.6 |
| | **TOTAL** | 94.5 / 99.8 | 80.4 / 99.8 | 83.5 / 98.3 | 59.1 / 97.2 |
| **Catalonia** | Catalan | 100 / 99.9 | 99.8 / 99.7 | 98.2 / 99.3 | 86.1 / 98.6 |
| | Spanish | 94.4 / 100 | 74.3 / 100 | 78.1 / 98 | 50.7 / 97 |
| | Catalan and Spanish | 100 / 100 | 99.6 / 100 | 98.9 / 99 | 83.2 / 99 |
| | Another Language | 76.6 / 98.8 | 50.9 / 98.2 | 56.3 / 89.8 | 28.6 / 82.1 |
| | **TOTAL** | 94.3 / 99.8 | 80.4 / 99.7 | 82.4 / 97.4 | 60.4 / 95.9 |

Source: Institut d'Estadística de Catalunya, 2014

While the differences in self-reported Catalan competence between Barcelona and Catalonia shown in table 1 are far from disparate, the usage rates and number of L1-speakers of Catalan remain considerably stratified by region within Catalonia. Renowned for having the lowest presence of Catalan

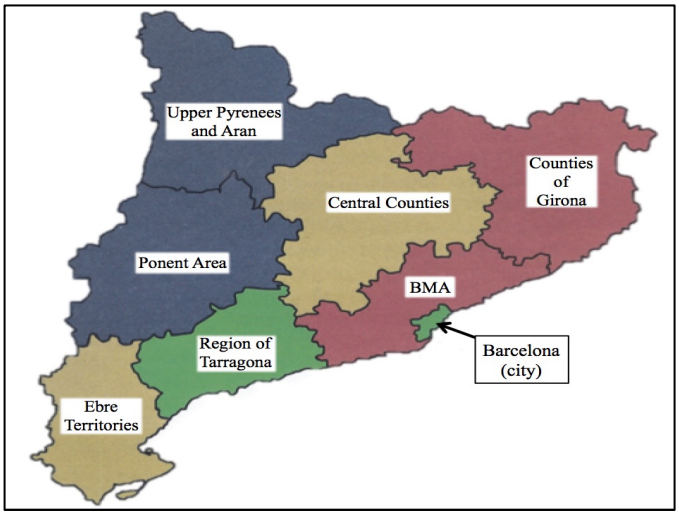
and fewest number of L1-Catalan speakers in all of Catalonia (Lleó, Cortés, and Benet, 2008, pp. 186), in the Barcelona Metropolitan Area (henceforth referred to by region as BMA) approximately 23% of the population are L1-Catalan speakers, compared to approximately 64% L1-Spanish speakers (Institut d'Estadística de Catalunya, 2014). Moreover, although there are over 600,000 non-native speakers of Catalan who use Catalan as their habitual language in Catalonia, the BMA continues to rank the lowest in all regions of Catalonia for the number of speakers habitually using Catalan, at approximately 28% of its population, as compared to 60% for habitual Spanish use (Generalitat de Catalunya, 2014, pp. 4, 7, Institut d'Estadística de Catalunya, 2014). A comparison of these values for Barcelona with those reported in 2013 for Catalonia, as well as those for Catalonia excluding Barcelona is offered in table 2. Additionally, a map of the seven regional territories of Catalonia is provided as figure 1, highlighting the urban capital city of Barcelona within the BMA. An examination of the differences in language percentages across the columns in table 2 crucially reveals that were it not for the BMA region, Catalan in fact would be a more common language than Spanish in Catalonia, both in terms of L1-speakers as well as habitual language users.

**Table 2: 2013 Population (%) Ages 15+ with Catalan and Spanish as Native or Habitual Language**

| | | **Barcelona Metropolitan Area** | **Catalonia** | **Catalonia Excluding BMA** |
|---|---|---|---|---|
| **Native Language** | Catalan | 23.3 | 31 | 44.5 |
| | Spanish | 64.3 | 55.1 | 39.16 |
| **Habitual Language** | Catalan | 27.8 | 36.3 | 51.21 |
| | Spanish | 60 | 50.7 | 34.52 |

Source: Institut d'Estadística de Catalunya, 2014

**Figure 1: Map of the Seven Regional Territories of Catalonia**




Adapted from Generalitat (2009, pp. 14)

In summary, the predominance of Spanish habitual language use and L1-Spanish speakers in the BMA and the city of Barcelona are a direct consequence of a history of waves of Spanish-speaking immigrants to these areas of Catalonia, first by Spanish immigrants in the mid-20th century and later by Latin American speakers of Spanish in the 21st century. However, since this asymmetry is in fact a unique staple of the BMA, Catalan's status as a minority language is clearly not without complications. As previously noted, were it not for the BMA, Catalan in fact stands as the majority language of Catalonia in terms of number of L1-speakers and habitual language users. Additionally, Sinner (2002, pp. 161) posits that Catalan in fact is the (local) language of prestige and cultural capital, with Spanish holding greater association with immigrants and the lower class. This claim has been corroborated by a variety of subsequent ethnographic and attitudinal work (cf. Frekko, 2009, 2013, Newman et al. 2008, Trenchs-Parera and Newman, 2009, Woolard, 2009, 2011), which notably suggests that the large number of non-Catalan-speaking immigrants who choose to learn Catalan in Catalonia do so as motivated primarily by the desire to gain better employment opportunities. Ultimately, since notions of majority and minority language status necessarily involve a community of reference, it may be proposed that at the level of the state, Catalan is a minority language, while at the regional level, within Catalonia, it

remains “first among equals” (Vila-Pujol, 2007, pp. 67).

### *2.2. Agentivity in Situations of Language Contact*

Research in contact linguistics (cf. Thomason, 2001; Thomason & Kaufman, 1988; Van Coetsem, 2000; Winford, 2005) has traditionally centered on a discussion of the kinds of linguistic innovations that can occur when two or more language varieties are in contact with one another. Linguistic innovations resultant from language contact may be described with reference to the language varieties in contact: if a feature native to language variety B and originally absent in language variety A is adopted in language variety A as a contact innovation, language A is deemed the ‘recipient’ language variety (RL) and language B the ‘source’ or ‘donor’ language variety (SL). Within Van Coetsem’s (2000) framework of language contact, contact innovations unidirectionally transfer from the source language variety (SL) to the recipient language variety (RL), and additionally are distinguished with respect to the agents of the innovation itself. Instances in which native speakers of the SL (or SL-dominant speakers) lead the adoption of a particular feature into the RL reflect SL agentivity, in which bilingual speakers carry linguistic features of their L1 (or more dominant language) into their L2 (or less dominant language). In contrast, instances in which native speakers of the RL (or RL-dominant speakers) lead the adoption of a particular feature from the SL into the RL reflect RL agentivity, in which bilingual speakers innovate linguistic features of their L2 (or less dominant language) into their L1 (or more dominant language) (Van Coetsem, 2000, pp. 49). In both instances, community-wide diffusion of the contact feature accordingly involves the eventual adoption of said feature on the part of all RL-speakers, including monolinguals of the RL and/or the remaining bilinguals that did not first innovate the feature.

The aforementioned distinction between RL and SL agentivity has been proposed to reflect two unique contact scenarios. For Thomason & Kaufman (1988), situations of RL agentivity most typically consist of cases in which bilinguals native (or dominant) in the RL incorporate lexical items from the SL into the RL, as opposed to syntactic or phonological contact innovations. In contrast, scenarios of SL agentivity are treated as outcomes derived from the non-native-like learning of a second language (in this case, the RL), and most typically consist of a case in which bilinguals native (or dominant) in the SL incorporate syntax and phonology from their L1 into their less dominant second language (the RL)

(Thomason, 2008, pp. 48).

Regarding contact effects between Spanish and Catalan, Arnal (2011) proposes a historical division between relatively more subtle and earlier contact effects, namely non-basic lexical borrowings, and more recent, structurally profound contact effects in the domains of syntax and phonology in light of the aforementioned influx of non-Catalonian (Spanish-L1) immigrants. Arnal (2011) argues that up until the arrival of massive waves of Spanish-speaking immigrants to the BMA in the mid-20$^{th}$ century, lexical borrowing was the primary (if not sole) contact innovation observable in Catalan, resultant from a relatively small population of native Catalan speakers, who acquired Spanish as a second language, borrowing select Spanish words into Catalan, constituting RL agentivity. In contrast, since the arrival of the present majority of L1-Spanish speakers to the BMA, this large population of Spanish speakers has acquired Catalan as a second language and imposed or transferred into it Spanish features of greater linguistic stability, such as those belonging to the domains of syntax and phonology, constituting source language (SL) agentivity. In contrast, comparatively few investigations have focused on the capacity for Catalan, as a minority language, to be the source for innovation into Spanish (Galindo-Solé, 2003, pp. 18). Though the larger population size of L1-Spanish (vs. L1-Catalan speakers) in the BMA might be expected to privilege Spanish-RL agentivity (i.e., lexical borrowings from Catalan into Spanish), several other factors likely facilitate outcomes of Catalan-SL agentivity (i.e., phonetic transfer from Catalan into Spanish), such as the relatively small typological distance between the languages, a relatively intense and lengthy history of language contact, and sociocultural pressures of Catalan being the native language of the dominant sociocultural group (as discussed in the previous section) (Thomason, 2001, 2010, Thomason and Kaufman, 1988). Accordingly, this paper seeks to empirically evidence phonetic influence from Catalan into Spanish as a case of SL agentivity.

### *2.3. The Social Status of Lateral Velarization in Catalonian Spanish*

Possibly the most salient and infamous phonetic feature of Catalonian Spanish (Casanovas Català, 1995, pp. 56), the velarization of alveolar /l/ to velarized [ɫ] has often been characterized as a product of phonetic transfer from Catalan in the Spanish of L1-Catalan speakers (Hualde, 2014, pp. 178, Simonet, 2010, Wesch, 1997, pp. 298, Vann, 2001, pp. 124). Recognized and overtly labeled *la ela catalana* 'the

Catalan l' by speakers within and outside of Catalonia, Davidson (2019) claims that the sociolinguistic status of Spanish velarized [ɬ] is consistent with that of a linguistic stereotype (cf. Labov, 2001), or a feature that is the subject of overt, negative social commentary by speakers. Corroborating Sinner (2002, pp. 165), who interviewed Madrid speakers that overtly acknowledged [ɬ] as the singular, defining phonetic of Catalans' Spanish and described Catalans' Spanish as sounding strange, ugly, harsh, rural, and without elegance, Davidson (2019) conducted a matched guise experiment to collect covert and overt evaluations of Spanish [l] and [ɬ] by Barcelonan bilinguals and Madrid monolinguals. The velarized lateral was covertly associated with incorrect or poor Spanish and more rural speech. Overt commentary on *la ela catalana* 'the Catalan l,' particularly on the part of Catalan-dominant bilinguals, linked it to social ridicule and a desire to avoid exaggeratedly Catalanized Spanish. Nonetheless, Barcelonan bilinguals additionally covertly and overtly expressed positive evaluations of Catalanized Spanish as linked to in-group solidarity attributes, namely a speaker's status as bilingual in Catalan and Spanish, echoing other matched guise work (Woolard, 2011) attesting to the positive social evaluation of expressly bilingual speech (or "linguistic cosmopolitanism" [Newman et al., 2008]). A parallel negative social stigma afforded to Spanish [ɬ] is attested by Pieras (1999) and Simonet (2010) for the Catalan-Spanish community of Palma de Majorca, Balearic Islands, to account for a proposed change in progress whereby youth female speakers lead an ongoing change in adopting less velarized laterals across both languages. While the present investigation may reveal a parallel trend for Barcelonan Spanish speakers, which would corroborate the admittedly contentious claim that Barcelonan youth no longer display a Catalanized accent in Spanish (Arnal, 2011, Prats et al., 1990), a potential preservation or even increase in lateral velarization on the part of Barcelonan speakers could just as readily be accounted for by the positive affiliations of Spanish [ɬ] with in-group, bilingual solidarity.[i]

### *2.4. Lateral Production in Catalan and Spanish*

Phonological characterizations of Spanish and Catalan differ with respect to their alveolar lateral inventory, namely in that whereas the former is described as featuring a single alveolar lateral that is exclusively realized as 'clear' or 'light' (i.e., non-velarized), the latter features a single alveolar lateral that is exclusively realized as 'dark' (i.e., velarized) (Hualde, 2014, pp. 178, Navarro Tomás, 1918, pp.

88, Prieto, 2004, pp. 204, Wheeler, 2005, pp. 34). The articulatory distinction between clear or non-velarized and dark or velarized laterals is that the former involves a placement of the tongue tip in the alveolar region to create a central occlusion, whereas the latter exhibits an additional secondary velar constriction via tongue dorsum retraction (Davidson, 2020a, pp. 387, Hualde, 2005, pp. 178, Prieto, 2004, pp. 204). This articulatory distinction is manifested acoustically as a difference in second formant frequency, whereby [l] exhibits a higher F2 than [ɬ] (Davidson, 2020a, Recasens and Espinosa, 2005, Simonet, 2010).[ii] Accordingly, the production of Spanish [ɬ] by a native speaker of Catalan can be understood as a direct imposition or transfer (Van Coetsem, 2000) of a uniquely Catalan sound into Spanish, constituting SL agentivity.

The discreteness of light and dark lateral categories, however, has been increasingly called into question by both articulatory and acoustic research in Romance and non-Romance languages alike. For example, electropalatographic data from several Catalan varieties, as well as German, show that the aforementioned tongue configurations are not strictly absolute, and instead are best characterized as comprised of relative gestural magnitudes (Recasens, 1996, 2004, Recasens and Espinosa, 2005). Additionally, F2 analyses across various Catalan varieties, European Portuguese, Peninsular Spanish, French, Czech, German, Russian, and Hungarian have revealed that lateral categories previously treated as discretely light or dark overlap each other cross-linguistically, and accordingly are better understood as a set of relative hierarchies of F2 (Recasens, 2012, see also Davidson, 2020a).

If one were to operationalize /l/ as exhibiting two discrete variants (light [l] and dark [ɬ]), then the empirical analysis of lateral variation in Catalonian Spanish would proceed rather in parallel with standard, variationist sociolinguistic treatments of other non-phonetic binary variables, in that linguistic and social factors would condition differing proportions of [ɬ] (or [l]) usage. For example, in Wesch's (1997, pp. 300) investigation of the Spanish of 24 Barcelonan speakers, the use of definite articles preceding proper names (e.g. *la Maria* vs. *Maria* 'Maria') was found to be favored in more casual styles than formal ones, while social class was not found to condition the variation between the definite article's presence or absence. For discrete variables, community-wide patterns of variation and change (e.g. changes in progress), as well as individual-level variation as the expression and negotiation of identity, accordingly are grounded in the proportional increase or decrease of a given variant relative to its

competitors, with the set of variants themselves (or feature pool [Mufwene, 2008]) being consistent or static across speakers.

A phonetically gradient variable, however, offers a unique alternative for individual-level and community-wide patterns of variation, as it is no longer than case that individuals and the aggregate community necessarily converge on the use of any singular, distinct variant. Instead, the production of relatively greater or lesser degrees of velarization, rather than any one particular acoustic form, constitutes the means by which individuals can index social meaning and the speaker aggregate can exhibit community-wide patterns of variation and change. As will be evidenced in the present investigation, lateral velarization in the Catalan-Spanish context is gradiently incorporated across unique profiles of speaker as a means of indexing an expressly bilingual, Catalonian identity that serves to distinguish this contact variety from its monolingual counterparts, while also navigating the negative stigma afforded to laterals perceived as overly 'Catalanized.'

## 3. Experimental Methodology

### *3.1. Linguistic Factors*

In this study I test for the effects of three linguistic factors on lateral velarization. The first, syllable position, establishes two levels, namely onset (e.g. ***l****ago* 'lake'; ***l****omo* 'pork loin'; ***l****entejas* 'lentils'; ***l****íquido* 'liquid') and coda (e.g. *coral* 'coral'; *girasol* 'control'; *fósil* 'fossil'; *nivel* 'level'). It is included in order to take into account a well-attested favoring of increased velarization degrees in coda over onset contexts (Recasens and Espinosa, 2005, pp. 3; Recasens, Fontdevila, and Pallarès, 1995, pp. 38, Recasens and Pallarès, 2001, pp. 37). The second linguistic factor, vowel coarticulation, establishes two levels, namely adjacent front vowel (e.g. ***l****engua* 'tongue'; ***l****isto 'ready'; *fáci****l*** 'easy'; *túne****l*** 'tunnel') and adjacent non-front vowel (e.g. ***l****ado* 'side'; ***l****unar* 'mole'; *español* 'Spanish'; *azul* 'blue'), and is included in order to take into account a well-attested favoring of increased velarization degrees in contexts of an adjacent non-front vowel over a front vowel (Recasens and Espinosa, 2005, pp. 3, Recasens and Pallarès, 2001, pp. 37, 47-48). The third and final linguistic factor, cognate status, establishes two levels, namely cognate (e.g. contro***l*** 'control,' Catalan *control*; ***l****upa* 'lens,' Catalan *lupa*; ***l****aberinto* 'labyrinth,' Catalan *laberint*) and non-cognate (e.g. ***l****oco* 'crazy,' Catalan *boig*; ***l****ogro* 'achievement,' Catalan *consecució*;

*cárce**l*** 'jail,' Catalan *presó*), and is included insomuch as it can rather transparently support an analysis of Spanish velarization as sourced from Catalan. Should Spanish laterals be more velarized in cognate words than non-cognate words, such an effect could be accounted for by means of an interconnected bilingual lexicon in exemplar representation (Brown and Harper, 2009, Costa, Santesteban, and Caño, 2005, Johnson, 1997).

### *3.2. Social Factors and Subject Population*

I presently test for a set of four social factors, namely gender, style, age, and language dominance, on lateral production in Barcelonan Spanish. Following the variationist sociolinguistic framework (Labov, 2001, Tagliamonte, 2012), gender, style, and age stratification reveal important insights into the current status and trajectory of lateral velarization in Barcelonan Spanish. As females are expected to conform more closely than men to overtly prescribed linguistic norms (i.e., prescriptive non-velarized [l]) but conform less than men when they are not overtly prescribed (Chambers, 2004, pp. 352, Labov, 2001, pp. 293), one might expect lesser velarization degrees in women than men, as well as lesser velarization degrees overall when speakers more closely self-monitor their speech than when they speak more spontaneously. As for age, I employ the apparent-time construct (Bailey, Wikle, Tillery, and Sand, 1991, Sankoff and Blondeau, 2007) by establishing two age groups approximately one generation apart (18-30 year olds vs. 48-60 year olds) and interpret synchronic variation as indicative of a diachronic trajectory whereby the younger group is considered more advanced than the older group.

With regard to the last social factor, language dominance, participants were recruited in two principal testing sites, namely Barcelona and Madrid, mirroring Sinner (2002). The former was divided into three groups based on profiles of language dominance and a city/village divide, whereas the latter served as a smaller control group that permitted a comparison of lateral production of the Catalan-Spanish community with those of an outsider, monolingual Spanish community. Bilingual participants were classified into speaker groups based on reported usage of Catalan and Spanish in their daily lives and familial upbringing, though as previously discussed in section 2.1, all bilingual speakers tested display a fully functional command of both languages. Barcelona participants all hail from the Barcelona Metropolitan Area (BMA), though those from the urban capital (population = 1,573,318 [Institut

d'Estadística de Catalunya, 2011)] are grouped separately from those from smaller, Catalan-prevalent villages (average population = 7,419 [Institut d'Estadística de Catalunya, 2011]) on the outskirts of the BMA, capturing potential differences in /l/ production reflecting the urban/rural divide previously noted in Sinner (2002). A total of 96 speakers participated, visualized in table 3.

**Table 3 Subject Population According to Language Profile Group**

| Listener Group | Younger (18-30) / Older (48-60) | Home Language / Native Language / Parent Native Language | Daily Spanish Use | 2013 Linguistic Census Data for Catalan Competencies (Understand / Speak / Read / Write)* |
|---|---|---|---|---|
| A – Catalan-dominant, Village | 6M 6F / 6M 6F | Catalan | 8% (SD = 6.1) | 98% / 88% / 88% / 70% |
| B – Catalan-dominant, City | 6M 6F / 6M 6F | Catalan | 10% (SD = 6.5) | 95% / 72% / 79% / 53% |
| C – Spanish-dominant, City | 6M 6F / 6M 6F | Spanish | 80% (SD = 10.2) | |
| D – Madrid (monolingual) | 12M 12F | Spanish | 100% (SD = 0) | N/A |

Source: Institut d'Estadística de Catalunya, 2014

### *3.3. Test Instruments*

Three test instruments were utilized in this study. The first, a socio-demographic questionnaire, contained 22 questions and was used to screen participants according to the social criteria outlined in the previous subsection so as to facilitate their binning according to the bilingual profile groups that appear in table 3.

The second instrument, a recorded word reading in Spanish, was used to elicit more self-monitored or careful speech. Subjects were asked to read aloud, using their best pronunciation, a series of 80 target words with /l/, stratified according to the aforementioned three linguistic factors of syllable position,

vowel coarticulation, and cognate status (10 tokens per each of 8 cells). Target items were interspersed within a set of 80 distractor items that did not contain /l/.

The third instrument, a 25-minute sociolinguistic interview (Labov, 2001), was used to elicit more casual, spontaneous speech. Participants were asked to discuss casual or neutral, less ideologically charged topics such as weather and meal preferences, hobbies, and vacation spots.

### *3.4. Data Collection Methods*

Each participant was recorded individually during a single experimental session lasting approximately 45 minutes. Participants were recorded using an SE50 Samson head-mounted condenser microphone and an H4n Zoom digital recorder (sampling at 44,100hz) in an audiometric booth in the phonetics laboratory at the *Universitat Autònoma de Barcelona*, in an empty classroom at the *Universitat de Barcelona* or *Universitat Pompeu Fabra*, a private office in a public library, or (for monolinguals) in a quiet room in the *Centro de Estudios de Posgrado* at the *Universidad Autónoma de Madrid*.

## 4. Data Analysis Methods and Results

### *4.1. Acoustic Analysis*

Following Recasens (2012), Recasens and Espinosa (2005), Recasens et al. (1995), Simonet (2010), and Morris (2017), lateral velarization is treated as a gradient phenomenon along a continuous scale of lateral darkness. F2 values were measured from each /l/ token's stable midpoint, calculated from hand-marked segment boundaries via transition cues in the waveform and spectrogram.[iii] The number of formants and the format ceiling for each lateral were specified according to linguistic context and speaker gender in order to minimize formant tracking errors, adapted by trial and error from those used by Simonet (2010). Gross tracking errors were corrected by hand. Example spectrograms illustrating a less velarized and more velarized production of /l/ in the token *coronel* 'coronel' produced by two different speakers appear as figures 2 and 3, respectively.

**Figure 2 Group A Younger Male Production of *coronel* 'coronel' (F2 ≈ 1105hz)**

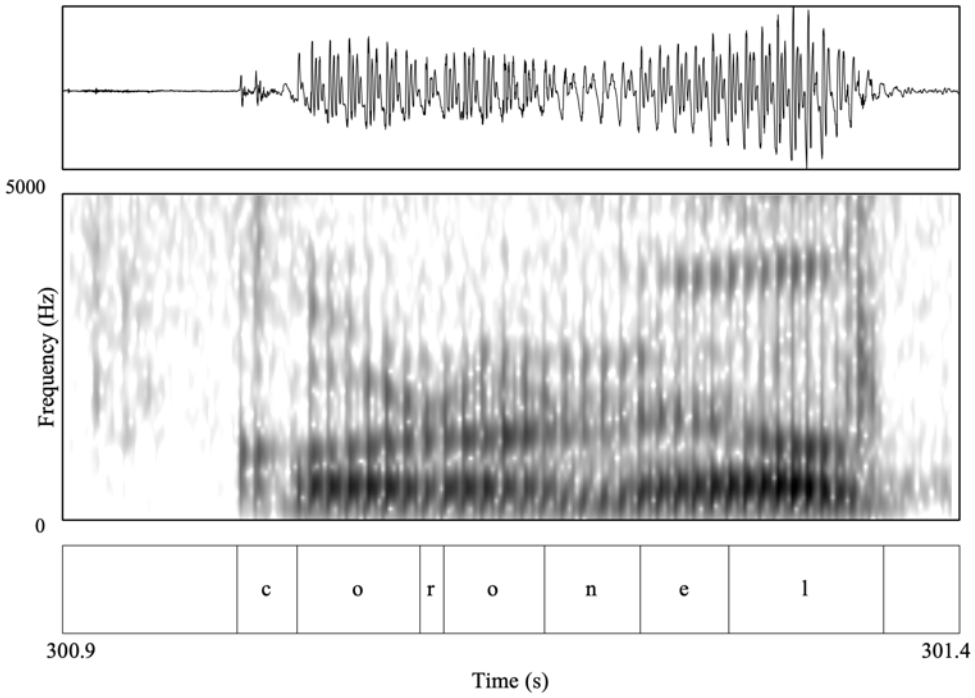
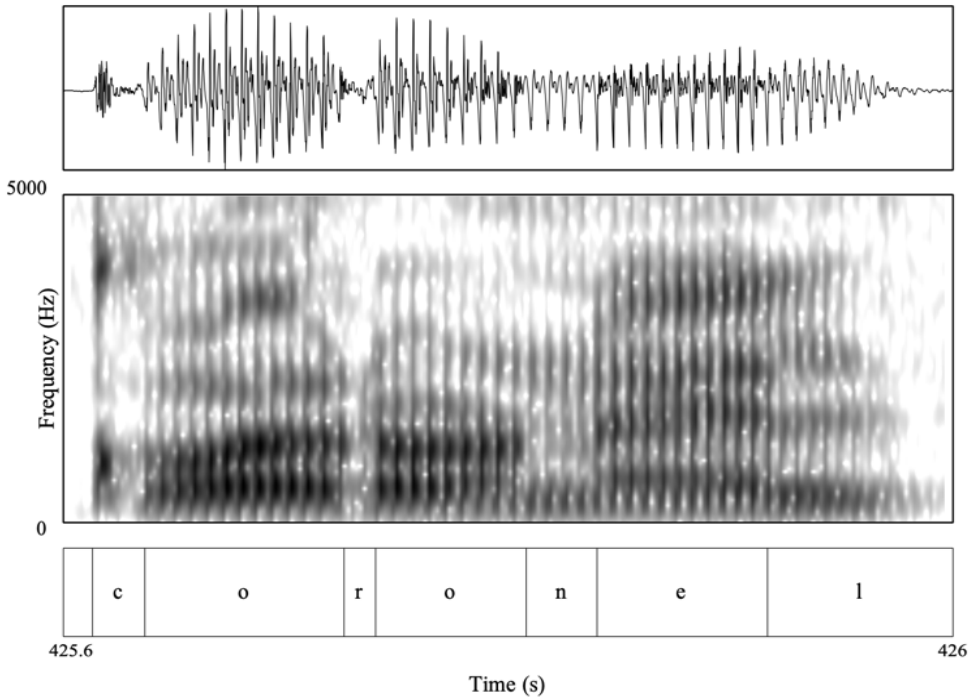



**Figure 3 Group D Male Production of *coronel* 'coronel' (F2 ≈ 1527hz)**



Having extracted midpoint F2 hertz values with a Praat script, these were converted from hertz into Bark units and subsequently transformed and normalized, following Simonet (2010), using an adaptation of the S-procedure (Fabricius, 2007, Watt and Fabricius, 2002). This normalization procedure expresses individual /l/ tokens as terms of how '[u]-like' (more velarized) or '[i]-like' (less velarized) they are in relation to each speaker's vowel space. Each speaker's vowel space was calculated (in terms of F2) by measuring the average F2 value (converted to Bark units) for the vowels /u/ and /i/. Once these /u/ and /i/ limits were established for a particular speaker, they were averaged together and served as the denominator over which the F2 (in Bark) of that speaker's individual /l/ token was divided, yielding a normalized F2 value with respect to 1 with asymptotes at 2 and 0. Normalized F2 values closer to 2 denote more [i]-like (or less velarized) laterals, whereas normalized F2 values closer to 0 denote more [u]-like (or more velarized) laterals.

In order to ensure valid comparisons between Barcelona and Madrid Spanish laterals using the S-procedure, it was necessary to first confirm that Spanish vowel spaces were not distinct between bilinguals and monolinguals. Accordingly, a mixed-effects linear regression (with independent variables of vowel [/u/ vs. /i/] and speaker type [bilingual vs. monolingual]) was run in R with F2 in Bark units as the dependent variable and speaker and token as random effects. Neither the main effect of speaker type ($F(1,28.3) = 0.001$; $p = 0.98$) nor the interaction between speaker type and vowel ($F(1,27.88) = 0.21$; $p = 0.65$) was statistically significant, permitting the use of S-procedure normalization across the whole subject pool.

### *4.2. Total Counts of Spanish Lateral Production Data*

The word list reading yielded a total of 7,680 Spanish lateral tokens. Those (relatively few) tokens with erroneous formant structures or notable speaker disfluencies were discarded from analysis, leaving 7,238 Spanish /l/ tokens (roughly 75 out of a possible 80 tokens per speaker). As for the interview data, in order to ensure a comparable dataset with fully represented linguistic factor cells, precisely 40 tokens per speaker (or 5 tokens per cell) were included for analysis. These 3,840 interview tokens, combined with the tokens from the word list reading, comprised the total of 14,918 laterals (or roughly 155 laterals per speaker) submitted to inferential statistical testing.

*4.3. Results – Linguistic and Social Factors Conditioning Spanish Lateral Velarization*

As the social factor of age was not applicable to the single generation of Madrid monolinguals, a single statistical model comparing all linguistic and social factor effects could not be generated. Accordingly, two models were created. First, for all bilinguals' data, a mixed-effect linear regression was performed in R using normed F2 as the dependent variable, testing for fixed effects of three linguistic factors (syllable position [onset vs. coda], vowel coarticulation [front vs. non-front], and cognate status [cognate vs. non-cognate]) and all four social factors (language profile group [A vs. B vs. C], gender [male vs. female], age [younger vs. older], and style [careful vs. casual]). Two-way interaction terms between language profile group and each of all the other independent variables were included in order to assess whether or not any of these effects varied significantly in magnitude or direction according to the different language profile groups. Individual speaker and token were included as random effects. To explore the only remaining comparisons, namely linguistic and social factor effects for bilinguals vs. Madrid monolinguals, a separate mixed-effect linear regression model for all the data combined was performed in R with the same dependent variable, independent variables (save for age), and random effects.

The results of the linear mixed-effects regression for bilinguals' data and linear mixed-effects regression for all speakers' data appear in tables 4 and 5 respectively (only significant effects reported), with negative β coefficients indicating greater velarization degrees compared to the intercept. Given the complex nature of these models, I shall elaborate on each of these results separately, offering additional information (and post-hoc analyses) as necessary for each finding.

**Table 4 Summary of Mixed-Effects Linear Regression Model Fitted to Bilinguals' Lateral Production Data**

| | *β* | *t* | *p* |
|---|---|---|---|
| (Intercept)* | .7226 | 27.114 | <.0001 |
| Onset | .0458 | 9.89 | <.0001 |
| Non-Front Vowel | -.1438 | -31.851 | <.0001 |

| | | | |
|---|---|---|---|
| Non-Cognate | .0356 | 3.918 | .0004 |
| Group B (Urban, L1-Catalan) | .1064 | 2.711 | .0081 |
| Group C (Urban, L2-Catalan) | .2836 | 7.166 | <.0001 |
| Male | -.1625 | -4.94 | <.0001 |
| Careful Reading | .0319 | 4.326 | <.0001 |

The intercept is Group A younger females producing coda /l/ adjacent to front vowels in casual speech.

**Table 5 Summary of Mixed-Effects Linear Regression Model Fitted to All Data**

| | *β* | *t* | *p* |
|---|---|---|---|
| (Intercept)* | .7549 | 27.848 | <.0001 |
| Onset | .0616 | 10.705 | <.0001 |
| Non-Front Vowel | -.153 | -30.042 | <.0001 |
| Non-Cognate | .0215 | 3.259 | .0005 |
| Group B (Urban, L1-Catalan) | .1464 | 3.748 | .0003 |
| Group C (Urban, L2-Catalan) | .3148 | 7.96 | <.0001 |
| Group D (Madrid, monolingual) | .6046 | 11.413 | <.0001 |
| Male | -.1455 | -3.614 | .0006 |
| Careful Reading | .0302 | 3.974 | <.0001 |
| Group D : Non-Cognate | -.02 | -3.597 | <.0001 |
| Group D : Male | .1235 | 2.813 | .0001 |
| Group D : Careful Reading | -.0288 | -3.597 | <.0001 |

The intercept is Group A females producing coda /l/ adjacent to front vowels in casual speech.

With respect to significant main effects of syllable position and vowel coarticulation, velarization degrees for laterals in coda contexts and adjacent to non-front vowels were significantly greater than those in onset contexts and adjacent to front vowels, independent of (or equally for each) language profile group. Visualized in figures 4 and 5, this suggests that all speakers exhibit a degree of strictly language-internal, phonetically-conditioned variation, corroborating the same direction of effect observed in various cross-linguistic studies (Recasens, 2012, pp. 371, Recasens and Espinosa, 2005, pp. 3, Recasens and Pallarès, 2001, pp. 37, 47-48, Slomanson and Newman, 2004, pp. 209; Van Hofwegen, 2009, pp. 304).

**Figure 4 Effect of Syllable Position on Spanish Lateral Production**

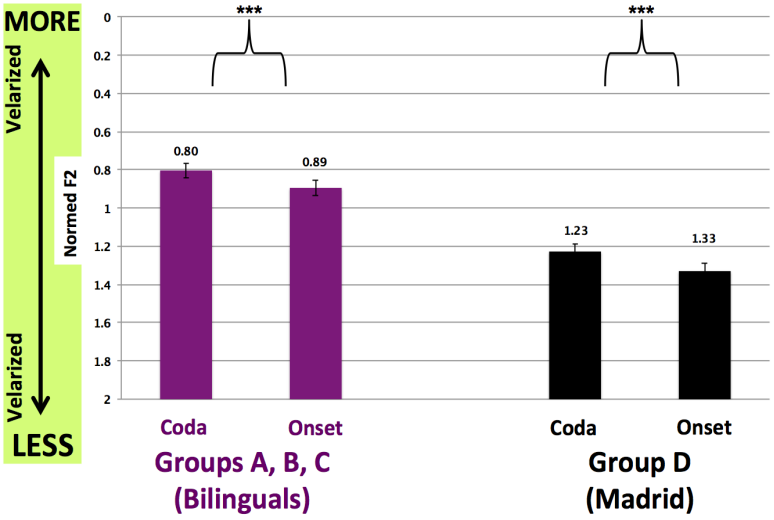
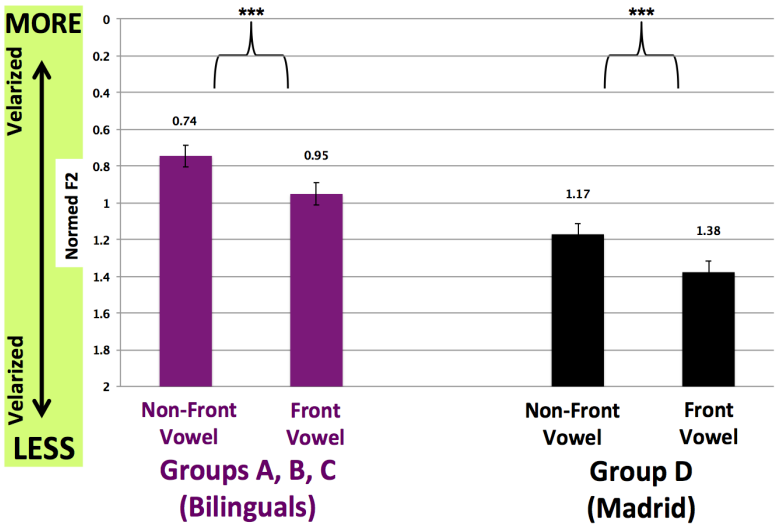
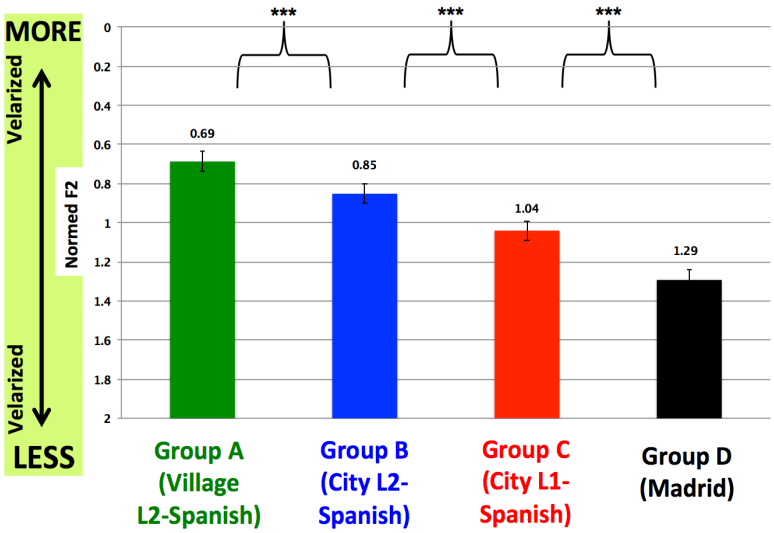



**Figure 5 Effect of Vowel Coarticulation on Spanish Lateral Production**



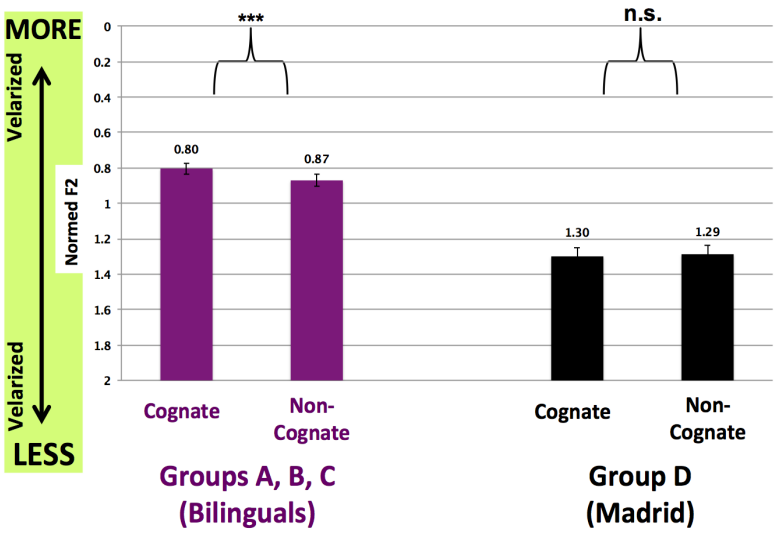

Regarding the effect of language profile group, post-hoc analyses (with Bonferroni correction [$\alpha$ = 0.0167 for the bilinguals' data, .0125 for all data]) revealed that velarization degrees for /l/ were distinct across each profile group, following a hierarchy of language dominance with greatest velarization degrees for Group A (L1-Catalan village) speakers, followed by Group B (L1-Catalan urban) speakers, Group C (L1-Spanish urban) speakers, and lastly Group D (Madrid monolingual) speakers (for each comparison in each model, $p<.0001$). These hierarchies reveal important differences in L1 vs. L2 production, in that Spanish laterals are significantly more velarized in the speech of L2-Spanish speakers (Groups A and B) than in the speech of L1-Spanish speakers (Group C) and Madrid monolinguals (Group D), consistent with Catalan-SL agentivity. Beyond the additional evidence of an urban-rural divide, with laterals being significantly darker in the speech of Catalan-prevalent village communities (Group A) than the urban center (Groups B and C), it is the case that all Barcelonan Spanish laterals, even those produced by L1-Spanish bilinguals (Group C), are significantly more velarized than Madrid Spanish laterals, solidifying the velarization of Spanish /l/ (albeit it at various degrees) as a distinguishing feature of Catalonian Spanish. Figure 6 illustrates these velarization hierarchies.

**Figure 6 Effect of Language Profile Group on Spanish Lateral Production**




With regard to the significant main effect of cognate status for bilinguals' data and its significant interaction with language profile group for the combined data model, pair-wise comparisons with Bonferroni correction ($\alpha = 0.0125$) revealed that while the effect was significant and of a parallel magnitude and direction for each of the bilingual language groups ($p<.0001$ for each), favoring increased velarization degrees with cognate words over non-cognate words, this effect failed to reach statistical significance for the Madrid monolinguals ($p=.531$). The lack of significant differentiation of velarization degrees between cognate and non-cognate words on the part of Madrid monolinguals is expected, since it cannot be posited that the Spanish monolinguals, unlike the bilinguals, experience parallel activations of Catalan cognate items. Accordingly, the attested cognate effect, exclusive to Catalan-Spanish bilinguals, serves as strong evidence in the classification of lateral velarization in Barcelonan Spanish as contact-induced. Figure 7 visualizes these unique patterns of cognate status sensitivity.

**Figure 7 Effect of Cognate Status on Spanish Lateral Production**




Finally, with respect to significant main effects of gender and style for bilinguals' data and each of their interactions with language profile group in the model of combined data, pair-wise comparisons with Bonferroni correction ($\alpha = 0.0125$) revealed that while each effect was significant and of a parallel magnitude and direction for each of the bilingual language groups ($p<.0001$ for each), favoring increased velarization degrees in male and more casual, interview speech than female and more carefully monitored read speech, neither of these effects reached statistical significance for the Madrid monolinguals (for gender, $p=.319$; for style, $p=.3$). Coupled with the lack of a significant main and/or interaction effect with age for either model, it is clear that for Madrid Spanish, lateral velarization is not socially mediated, and the small degree of variability in velarization degrees produced in this monolingual community is purely phonetically conditioned. For Barcelonan Spanish, on the other hand, I find evidence for the usage of variable velarization degrees to perform specific social functions. In particular, the decrease in velarization degrees in more careful speech suggests that more strongly velarized /l/ productions are indeed non-standard, being corrected or effectively reduced when speakers adhere to perceived prescriptive speech norms as they read with their best pronunciation. This direction of effect, when taken in conjunction with the finding of greater velarization degrees displayed by Barcelonan males compared to their female counterparts, alongside a lack of a significant effect of age stratification, is consistent with a case of stable variation (Labov 2001), wherein females conform more

closely to overt prescriptive norms than males. Figures 8 and 9 illustrate these unique social stratifications attested in the Barcelonan bilingual speech community.

**Figure 8 Effect of Gender on Spanish Lateral Production**

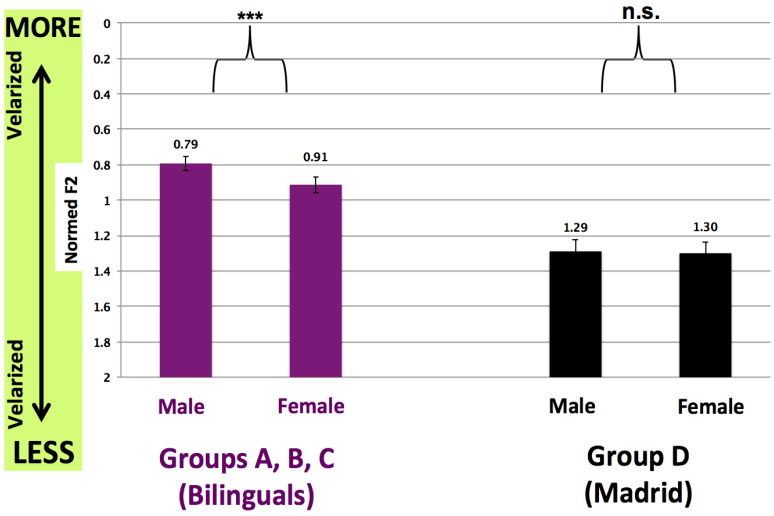
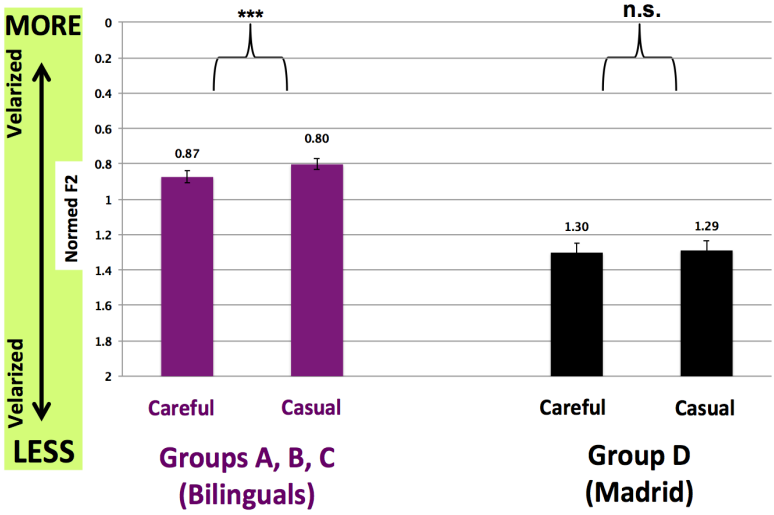



**Figure 9 Effect of Style on Spanish Lateral Production**



## 5. Discussion

### *5.1. Assessing Gradient Lateral Velarization in Barcelonan Spanish*

Unlike lexical and morphosyntactic variables, which tend to be inherently categorical or discrete and thus readily quantifiable into proportions of use, I have approached the variable production of /l/ as a case of gradient degrees of lateral darkness that speakers can employ, conditioned by a confluence of linguistic and social factors. This unique property of the phonetic domain adds a fascinating layer of sociolinguistic complexity to cases of SL agentivity, perhaps best exemplified in the attested hierarchy of velarization degrees within different bilingual groups in the BMA. For example, having observed significantly increased velarization degrees in L1-Catalan village speakers (Group A) in comparison with city L1-Catalan speakers (Group B), who in turn produced significantly darker laterals than city L1-Spanish speakers (Group C), to what extent is it warranted to conclude that Spanish lateral velarization, originally innovated by L1-Catalan speakers, has successfully diffused outside of the speech of the L1-Catalan population and into the speech of L1-Spanish speakers?

Since laterals produced by Group C speakers are significantly less velarized than those of Group A/B speakers, one might conclude that the laterals of L1-Catalan speakers have yet to be adopted by L1-Spanish speakers. Given the observed gender and style stratification favoring less velarization by females in more careful speech, alongside a lack of significant age stratification, it is unlikely that such a change in progress is on the precipice. On the other hand, the comparatively weaker degrees of lateral velarization produced by Group C speakers are significantly more velarized than laterals produced by Madrid monolinguals. In this sense, the Catalan-Spanish community currently produces laterals with enough velarization to distinguish itself from monolingual outsiders, which supports the notion that Group C speakers have indeed adopted a Catalanized lateral. As previously mentioned, however, there is no evidence of any speakers actively adopting stronger velarization degrees as part of some incipient change in progress.

Ultimately, the inherently gradient nature of select phonetic variables, such as /l/ velarization, offers additional avenues for potential (contact-induced) change. Changes in progress could be constituted by, in one instance, the gradual, communal adoption of a particular acoustic feature (i.e., speakers converge

on a discrete acoustic form of /l/), or, alternatively, by the gradual, communal adoption of gradient degrees of an acoustic feature (i.e., speakers collectively velarize more or less strongly in unison, without all converging on any single discrete acoustic form of /l/). In this latter sense, lateral velarization has indeed diffused across the Catalan-Spanish community, with the monolingual-like (minimal) degrees of velarization not presently being attested even amongst the more Spanish-dominant, urban youth speakers.[iv] In the debriefing interviews following Davidson's (2019) matched guise study, most speakers across all bilingual language profile groups noted a certain ambivalence or neutral acceptance with respect to *la ela catalana*: "If I make my /l/s very Catalan-like, what does it matter? Everybody here speaks like this, it's normal," (Group A, younger female), "Catalan /l/, Catalan vowels, look – you can have a lot of Catalan accent in your Spanish, but it doesn't matter much, it's understandable just the same, you know?" (Group B younger male), "I don't think I do the /l/s this way, very Catalan-like, but… I don't know, if I did them very Catalan-like, it wouldn't matter much. I don't know, it's ok, it doesn't matter" (Group C younger female) (Davidson, 2019, pp. 69-70*)*. The notion that Catalan-accented Spanish (via /l/ and/or many other features) is nowadays normal and inconsequential runs in parallel with those elicited in Woolard (2011) and Newman et al. (2008), and accordingly illustrates the course of ideological change in Catalonia over recent decades, progressively favoring bilingualism and the coexistence of Catalan and Spanish as part of an expressly bilingual Catalonian identity. Youth, urban speakers in the BMA, including those who use and are exposed to Spanish more often than Catalan (e.g. Group C), detailed the social capital gained from using Catalan-accented Spanish: "Well, yes, I like it. It makes me a little jealous because you can tell it's someone that speaks Catalan well, and I don't believe I speak Catalan very well" (Group C younger female), "I think that they are from my country, that they are Catalan, that they are like me. Of course, it's like a fondness, like a patriotism. As a person, they transmit positive things to me, more than an Andalusian, for example" (Group B younger female) (Davidson, 2019, pp. 71). Greater velarization degrees on the part of the present sample of bilingual participants (relative to non-Catalonian outsiders from Madrid) accordingly are facilitated by the current ideological ecology of Catalonia, that positions knowledge of Catalan, alongside Catalonian identity, as distinguishing and beneficial qualities.

The hierarchy of velarization degrees (Groups A>B>C) illustrates differential participation in

community-level socially-indexed variation: velarization degrees stronger than those of outsider communities (like Madrid) permit Barcelonan speakers to positively index their bilingual identity, while additional magnitudes of velarization progressively distinguish backgrounds of greater Catalan-dominance, with the greatest velarization degrees further indexing rurality, all subject to progressively greater social ridicule as "improper Spanish" (Davidson, 2019, pp. 72-73). Indeed, the notion of velarized [ɫ] as a linguistic stereotype must be problematized given the inherent gradience of /l/ production, since it is unclear how speakers' perceptions of what constitutes *la ela catalana* relate to a specific F2 or acoustic category. In the debriefing interviews following Davidson's (2019) matched guise study, several Barcelonan informants described their production of Spanish /l/ with respect to a certain threshold of social scrutiny: "I try to make [my accent] not *so exaggerated*... I try to make it so it's not *as noticeable*" (Group C younger female), "I don't like that people laugh at my *super*-Catalan accent" (Group B younger female), "I don't think I do the /l/s this way, *very Catalan-like*" (Group C younger male), "Supposedly we shouldn't make the /l/s *so Catalan-like*" (Group B younger male) (Davidson, 2019, pp. 69-71, *my emphasis)*. These statements convey the idea that the 'Catalan-ness' of one's laterals can be effectively and strategically toned down, while also suggesting that only overly Catalanized productions carry negative social stigma. Though the present data can only speak to the strategic manipulation of lateral velarization in the context of more spontaneous speech relative to more careful speech, on the basis of what speakers perceive to be more "correct" Spanish, it is likely that speakers of all bilingual profile groups may nonetheless modulate degrees of lateral velarization according to specific interlocutors and in response to ideologically charged topics that motivate speakers to most strongly project Catalonian identity. Relatedly, a future perception experiment could effectively pinpoint the acoustic thresholds that distinguish non-Catalonian (or outsider) laterals, Catalonian (or insider, non-stereotyped) laterals, and overly Catalanized (or stereotyped) laterals, all potentially dependent on listeners' social profiles. However, in the absence of such perception data, it nonetheless can be posited that the gradient nature of /l/ production affords speakers the linguistic mobility to positively index in-group bilingual solidarity through velarization degrees strong enough to distinguish them from monolingual outsiders, all whilst simultaneously navigating social stigma as evidenced through stratifications of gender and style. Lastly, it is worth noting that since the daily use of Catalan does not

vary considerably between Groups A and B (see table 3), the significant difference in velarization degrees between them is likely not a product of differential levels of Catalan dominance. Instead, following Sinner's (2002) observations of *la ela catalana* as indexing rurality, it is probable that the maintenance of the strongest velarization degrees on behalf of Group A speakers, in spite of negative social ridicule, is indicative of some level of covert prestige (cf. Trudgill, 1972) as associated with greater and/or more authentic Catalan identity.

As for the attested differential effects of select linguistic and social factors, these support a characterization of Catalonian Spanish lateral velarization as follows: Variability in velarization degrees in Catalonian Spanish, on the one hand, can be accounted for by endogenous, language-internal sensitivities to effects of syllable position and vowel coarticulation, in parallel with non-contact varieties of Spanish that similarly show increased velarization in coda contexts and adjacent to a non-front vowel. Unique to the context of Catalonian Spanish, however, are additional sensitivities that highlight the influence of contact with Catalan, namely increased velarization for cognates words with Catalan, and increased velarization for speakers with greater exposure to and general usage of (or dominance in) Catalan. The continued presence of lateral velarization in Catalonian Spanish, especially amongst L1-Spanish speakers, can be linked to covert and overt positive associations with in-group, bilingual solidarity (Davidson, 2019), corroborated by the present study in the form of recognizing lateral velarization as a real, acoustic means of sociolinguistic distancing from monolingual Spanish varieties.

I should additionally reinforce that contact innovations (and linguistic innovations in general, outside of contact settings) are readily imbued with social value by speakers, indexing various aspects of a speaker's identity. Woolard (2009) argues that an individual's use of one language instead of another can carry less poignant social significance in a setting of widespread bilingualism, such that whereas speaking Catalan in the mid-20$^{th}$ century plainly indexed native Catalonian identity (as non-Catalonians had less social obligation to speak or even learn Catalan), speaking Catalan today is less associated with one's native status as Catalonian (as a considerable number of non-Catalonians now know and use Catalan, just as many native Catalonians now use Spanish). This ethnolinguistic breakdown between (habitual) language use and native Catalonian identity opens up considerable possibilities for indexing native Catalonian identity through the use of specific linguistic features in either language, as aptly

described by Vann (2007, pp. 253, 271): "...even when Catalan people do not speak Catalan, they can still communicate their ethnicity or sociocultural identity through the linguistic resources available to them in Spanish. [...] ...Catalans can use, and recognize the use of, the linguistic resources available to them in their variety of Spanish as another ethnolinguistic and ideological assertion besides language choice...".[v] Accordingly, considering the present-day turbulent political climate in Catalonia that brings Catalonian and Spanish ideologies to the foreground of speakers' daily lives (Woolard, 2016), one might predict that Spanish (and Catalan) contact innovations may become all the more prevalent as tools to negotiate and project identities and ideologies.

### *5.2. On the Presence of SL Agentivity in Minority Language Settings*

Following Thomason (2008, 2010) and Thomason and Kaufman (1988), contact innovations are not to be treated as foregone conclusions. While certain linguistic and social conditions may probabilistically favor the emergence of a given innovation and its eventual diffusion into the greater speech community, language change is ultimately socially-mediated. This is to say that the adoption of a particular linguistic feature by members of a speech community is a social behavior, and as such is inherently unpredictable and dynamic, rendering contact linguists and variationist sociolinguists equally at odds with the inability to address the actuation problem (Weinreich, Labov, and Herzog, 1968, pp. 102) with any real certainty.

In evaluating the modern status of Catalan and Spanish in Catalonia, I have suggested that Catalan's status as a minority language is inconsistent with the local prestige and linguistic capital it holds within Catalonia. With respect to the relative population sizes of Spanish and Catalan speakers since the 20$^{th}$ century immigration waves, the census data previously discussed in section 2.1 and appearing in table 2 reveal that the only actual site of considerable population disparity in favor of Spanish is the BMA. Without considering the BMA, Catalan in fact is numerically the majority language of Catalonia, which severely limits the geographic scope of the predicted sociolinguistic domination of Spanish. Indeed, the most recent census data reveal that roughly two-thirds of all foreign (non-Spanish-L1) immigrants (ages 15+) to Catalonia and Barcelona express an explicit goal to acquire Catalan proficiency, a reflection of its perceived prestige and utility in the labor market and educated spheres (Institut d'Estadística de Catalunya 2014). Though the asymmetry in Catalan-Spanish bilingualism favors Spanish as the majority

language in Spain, it is numerically rather marginal, constituting a roughly 5% difference in the rates of Catalan/Spanish acquisition by Spanish/Catalan natives, all of which are above 90% (as appearing in table 1). Furthermore, a series of longitudinal attitudinal studies conducted in Barcelona by Woolard (1984, 1989, 2009, 2011), Woolard and Gahng (1990), and Newman et al. (2008) points to an evolving linguistic ideology that is increasingly favorable to Catalan alongside Spanish, rejecting monolingualism and favoring each language's use, as well as each language's influence on the other. Altogether, the combination of demographic, attitudinal, and linguistic evidence from these and the present study is consistent with Catalan's continued linguistic influence on Spanish in Catalonia, probabilistically favored by the social, political, and linguistic realities that characterize this bilingual community (see also Davidson, 2020b).

## 6. Conclusion

The present investigation sought to empirically investigate the sociolinguistic status and usage patterns of lateral velarization in Catalonian Spanish. I have provided evidence in support of Catalan's continued participation in bidirectional language contact effects in Catalonia, in the form of quantitative observations of lateral velarization, and grounded these production patterns in the context of linguistic and social dynamics at play in multilingual speech communities. I affirmed that Catalan does not conform to the typical expectations, for a minority language, of considerable social and linguistic subordination to a majority language like Spanish, and accordingly might be better considered in future treatments of Spanish-Catalan contact as a socially-dominant or majority language within Catalonia. Lateral velarization is only one of a diverse set of linguistic features that Catalan-Spanish bilinguals can use to index their community's shared bilingual identity, and in doing so, speakers continue to take part in the evolution of a regional contact variety of Spanish, readily distinguishable from monolingual and other varieties. Additionally, the continuous nature of the sociolinguistic variable at hand was linked to the expressly gradient means by which unique speaker profiles navigate the social indexation of language dominance, rurality, and negative stereotypes of excessively Catalanized speech. Ample opportunities exist for continued work investigating Spanish-Catalan contact effects as mediated by the

unique social conditions of each language in different communities, especially insomuch as the predominance of Spanish in the BMA stands in contrast to that in other regions of Catalonia, which will more strongly inform our understanding of directionality in language contact settings as the product of both linguistic and social factors, and accordingly the linguistic and social dynamics of majority and minority language contact.

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[i] Though the present investigation does not address the linguistic assimilation of recent non-Catalan-speaking immigrants, Báez de Aguilar (2008) offers a qualitative, ethnographic study of a large family of Andalusian immigrants to Catalonia. While the majority of analysis concerns the leveling out of Andalusian Spanish phonetic features, the adoption of Catalan-contact innovations (namely Spanish velarized [ɫ]) was only noted for a single informant, uniquely for whom Catalan was spoken alongside Spanish in the home, and whose social network consisted primarily of Catalan-L1 individuals (Báez de Aguilar, 2008, pp. 110-111).

[ii] Though multiple acoustic correlates of lateral velarization have been explored cross-linguistically, including F2, the difference between F2 and F1, and also F3 (insomuch as possible coarticulatory differences from surrounding rounded or non-rounded vowels are concerned), F2 alone has been successfully demonstrated to infer velarization degrees most commonly and is employed in the present analysis (Recasens, 2004, 2012, Recasens and Espinosa, 2005, Simonet, 2010, and see Davidson, 2020a, pp. 387-388 for a review of both articulatory and acoustic approaches to lateral velarization). Nonetheless, it is important to note that F2 of course is not a direct measure of velarization, but instead is used to make inferences about the articulatory gestures that differentiate lighter and darker laterals.

[iii] Following Simonet (2010), lateral onsets and offsets were marked as the respectively first or last pitch periods with lower intensity than the prior or following adjacent vowel.

[iv] It is important to acknowledge, in the context of an analysis of diffusion (Labov, 2001), that it may not be possible to effectively date the historical propagation of greater (non-monolingual-like) velarization degrees in Catalonian Spanish. Many (if not all) prior treatments of Barcelonan Spanish /l/, particularly in the speech of Spanish-dominant speakers, have used impressionistic coding to determine what constitutes a discrete production of *la ela catalana*, effectively dismissing lateral productions that may in fact be velarized enough to be distinct from monolingual Spanish /l/, but nonetheless are not velarized enough to be considered bonafide examples of the stereotype [ɫ]. In conceding the inherently relative nature of lateral darkness, a historical, apparent-time analysis of the adoption of more velarized laterals based on previous studies becomes exceedingly difficult.

[v] Similarly, Guy (1988, pp. 37) writes: “In the case of the bilingual Catalan society, any person can simultaneously belong to various groups, that is, have multiple identities based on language preferences (and/or prejudices against them). Language performance can help in the construction of such an identity, but seeing as Catalan society is bilingual, we have to look for symbolic uses of the language which serve an emblematic function: they identify the speaker as belonging to a particular group, or having a particular social identity.”

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