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Abstract

This study focuses on the incorporation and distribution of two Spanish phonemes, voiced and voiceless bilabial obstruents, into a pre-existing allophonic distribution of dental and velar obstruent voicing in Copala Triqui, an Otomanguean language from Oaxaca, Mexico. While a more traditional approach may assume that these phonemes will follow native rules of voicing, there has also been a recent concern about the trend to make maximal generalizations. In this line of thinking, people should make just the specific generalizations for which they have evidence (Hale and Reiss, 2008). Using data collected from live radio broadcasts, an article on lexical assimilation (Hollenbach, 1973b), a Spanish-Triqui dictionary (Hollenbach, 2004b) and formal elicitations, I show that these bilabial obstruents do follow pre-existing rules of voicing but also do not follow native patterns of devoicing. While on the surface this may seem to support Hale and Reiss' warning, a more detailed look at the linguistic factors and sociolinguistic patterns reveals that (1) Triqui rules of voicing can be generalized beyond dental and velar obstruents to include bilabial obstruents although there are linguistic factors and sociolinguistic patterns mitigating this process. (2) Linguistically, a closer look at patterns of voicing in Triqui obstruents reveals that only the voiceless bilabial is imported directly. The voiced bilabial, in turn, is actually adapted as the native bilabial glide, which has an obstruent-like realization. (3) Finally, we see that the borrowed phoneme is much less likely to follow native rules in contexts of higher formality such as elicitations even when they follow native rules in less formal contexts such as radio broadcasts. By paying attention to the sociolinguistic context it becomes apparent that both careful and free speech need to be taken into account in order to fully understand possible generalization of native rules as well as sociolinguistic factors that may impede or even expedite this process.

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Variation in Loan phonology: Neutralization of Spanish Bilabials in Copala Triqui

Ruth Scipione*

1 Introduction

This study focuses on the incorporation and distribution of two Spanish phonemes, voiced and voiceless bilabial obstruents, into a pre-existing allophonic distribution of dental and velar obstruent voicing in Copala Triqui, an Otomanguean language from Oaxaca, Mexico.[1] Most recent interest in loanwords has focused on the adaptation of foreign sounds into native equivalents using a constraint-based approach, treating the importation of foreign phonemes as an alternative to adaptation. What is yet to be fully understood is the behavior of these borrowed phonemes once they are incorporated into everyday language (see Sayahi, 2007 for one example). Some more traditional generative approaches will assume that these borrowed phonemes follow existing rules and patterns in the native inventory. Hale and Reiss (2008), however, argue against the trend to make maximal generalizations, positing that people make just the specific generalizations for which they have evidence. If the former is true then we can expect these bilabials to behave similarly to their velar and dental counterparts, voicing and devoicing in appropriate contexts; if the latter prevails then we can expect these sounds to behave differently from their dental and velar counterparts.

Using data collected from live radio broadcasts, an article on lexical assimilation (Hollenbach, 1973b), a Spanish-Triqui dictionary (Hollenbach, 2004b) and formal elicitations, I show that these bilabial obstruents do follow pre-existing rules in final syllables, non-final syllables and after a nasal but do not follow native patterns of devoicing. While at first glance this seems to support Hale and Reiss, a closer look at this conflicting evidence shows that this inconsistency is more likely due to the fact that historically only the voiceless bilabial has been borrowed while the voiced bilabial was adapted into the native bilabial glide, which in turn has an obstruent realization. More consistent borrowing of the voiced bilabial may actually be a new trend only in younger speakers.

While the caution of Hale and Reiss does not hold true in the case of Triqui bilabials, it has important implications for this study and the study of phonemic borrowing in general. First, in the case of Triqui bilabial obstruents, two different factors are at play rather than one neutralization rule. Since these two processes –the borrowing of one phoneme and the adaptation of the other— produce a very similar output to what the neutralization rule would predict, it is only through this additional scrutiny that we find this inconsistency. A second tendency that emerges is that the treatment of borrowed phonemes in this study is dependent on register. In the case of this study, Triqui bilabials are more susceptible to breaking general native rules when in the more formal speech of elicitations then they are in the less self conscious speech of live radio broadcasts. This fact not only has implications for Hale and Reiss' findings –which also represent laboratory elicitations— it also shows the importance of using both formal and informal data for studying the behavior of borrowed phonemes.

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[1] As in many Otomanguean languages, Triqui shows a fortis-lenis distinction. While in other dialects of Triqui this distinction is shown in length and even intensity (see DiCanio 2008), in Copala Triqui this distinction shows in voicing in obstruents and for this reason I refer to it as a voicing contrast rather than fortis-lenis, in contrast with Hollenbach (1984b). Sibilant voicing follows slightly different rules than obstruent voicing, however, this is not relevant for this analysis.

2 Background

In this section I will review the consonantal inventory of Copala Triqui as well as the rules of phonology that will be relevant for this analysis.

2.1 Consonantal Inventory of Triqui

Table 1 outlines the consonantal inventory in Copala Triqui. For alternative analyses of Copala Triqui's phonemic inventory, see Hollenbach 1975, 1977, 1984b, 2004a, and 2004b.

	bilabial	Labio-Dental	Dental	Alveo-palatal	retroflex Alveo-palatal	palatal	Velar Labio-velar	glottal
Voiceless stop	/p/*		/t/				/k/ /kw/	
Voiced stop	/b/* /mb/		/d/ /nd/				/g/ /gw/ /ŋg/	
affricates			/ts/	/ʧ/	/tʂ /			
voiceless fricative			/s/	/ʃ/	/ʂ/			
voiced fricative			/z/	/ʒ/	/ɾ/			
nasals	/m/		/n/					
liquid			/l/					
Glide						/y/	/β/	
laryngeal	/ʔβ/ /ʔm/		/ʔn/ /ʔl/ /ʔd/			/ʔy/	/ʔŋg/	/ʔ/ /h/*

Table 1: Triqui Consonant Inventory

Copala Triqui has borrowed three phonemes from Spanish, the /h/, /p/ and /b/ all of which exist in a more limited sense outside loanwords in this language (Hollenbach, 1984b:55). The aspirated laryngeal /h/ is used supersegmentally in word final position and has come to be used segmentally when in onset position in Spanish loanwords. It replaces the Spanish velar fricative /x/ in words like /te.xa/ 'tile' (Sp teja) which becomes /te.ha[4]/ in Copala Triqui. The voiced bilabial /b/ exists as a variant of the bilabial glide, which can be pronounced /w/, /β/ or /b/.[2] Finally, the voiceless bilabial /p/ is used in a limited number of onomatopoeias such as /pih[5]/ which is a specific type of frog found in Oaxaca as well as the sound that this frog makes.

Also relevant to this analysis is a series of nasal + obstruent sequences (N-O) /nd/, /ŋg/ and /mb/, which have facilitated the reanalysis of Spanish loanwords with nasal coda and obstruent onset as an N-O onset as in (1). Although there is only one example of this prenazalized bilabial in the literature (Hollenbach, 1975:33) the increased presence of Spanish loanwords with this /mb/ sequence has made this segment more common in Copala Triqui.

(1) Reanalysis of N-O Sequence in Copala Triqui
   a. /nD/ Spanish /kwen.to/ 'story' →Triqui /kwe.nDo[4]/ 'story, reason'
   b. /ŋG/ Spanish /ban.ko/ 'bank' →Triqui /βa.nGo[4]/ 'bank'
   c. /mB/ Spanish /kam.po/ 'field' →Triqui /ka.mBo[4]/ 'field'

[2] The symbol β typically represents the bilabial fricative; I use it to represent the bilabial glide in Copala Triqui. Although this sound has both a fricative and obstruent variant, it patterns like a glide in this language. It is also in line with how this symbol is use in descriptions of other dialects of Triqui (DiCanio, 2008).

Lastly, Triqui has 5 distinctive tones, tone 1 is the lowest and tone 5 is the highest. It also has three contour tones, 31, 32 and 13. Most Spanish loanwords are brought into Triqui with a 4 tone. Since Triqui almost always differentiates tone in the final syllable only, all examples of Triqui loanwords are written with a superscript number on the final syllable only.

2.2 Voicing in Copala Triqui

In Triqui the important information is carried in the final syllable of each word. Only final syllables can carry segmentally distinctive features such as nasality and voicing contrast while non-final syllables, in turn, do not distinguish for these features. This means that velar and dental obstruents in monosyllabic words such as the ones found in (2) are separate phonemes and the ones found in (3) are allophones of each other. Voicing is also non-distinctive in N-O sequences as seen in (4), which are found almost exclusively in monosyllabic words and the onset of a final syllable.

(2) Distinctive Voicing
a. /dã^{32}/ – 'that one'
b. /tã^{32}/ – 'blood'
c. /gã^{1}/ – 'far'
d. /kãʔ^{3}/ – grindings

(3) Voicing Neutralization in Non-Final Syllables
a. /kiriʔ^{3}/ 'bought' can be [kiri^{3}] or [giri^{3}]
b. /taʔnii^{5}/ 'child' can be [taʔnii^{5}] or [daʔnii^{5}]

(4) Voicing Neutralization in native N-O sequences
a. /nDo^{32}/ 'a lot, many' can be [ndo^{32}] or [nto^{32}]
b./nGaa^{31}/ 'cloud' can be [ŋgaa^{31}] or [ŋkaa^{31}]

2.3 Patterning of Obstruent Voicing outside of Loanwords

Although this analysis focuses on voicing in loanwords, it is first necessary to show how voicing works in native words. The following example shown in (5) is an excerpt from the beginning of "The Origin of the Sun and the Moon: A Copala Triqui Legend," recorded in 2003 at the University at Albany and then transcribed and translated (Broadwell, 2009). From this text it becomes clear that in native words there is no distinction between voiced and voiceless obstruents in non-final syllables. In fact, taʔnii^{5}, the word for 'child', is produced differently even when it has the same linguistic context and is found in two adjacent sentences.

(5) Excerpt from "The Origin of the Sun and the Moon: A Copala Triqui Legend" (Broadwell 2009)

Ñaan^{5},	[ne'e^{4}] zoʔ^{1},	ʃGuaʔan^{4}	Kaʔaj^{32}	me^{3} ze^{32}	me^{3}	**nDo^{32}**	ra^{4}	yoʔ^{3}
con:live	*you [know]*	*grandmother*	*Ca'aj*	*cleft*	*want*	*ints*	*want*	*3n*
gaa^{2}	**Taʔnii^{5}**	ne^{2}	me^{3}	**nDo^{32}**	ra^{4}	gaa^{2}	**Daʔnii^{5}**	ne^{2}…
pot:exist	*child*	*and*	*want*	*ints*	*want*	*pot:exist*	*child*	*and…*

"There lived our Grandmother Ca'aj, who wanted to have children very much. She wanted to have children very much…"

The following sections will focus on the behavior of these phonemes in loanwords only.

3 Data

For this analysis I draw from a corpus of 1,390 individual tokens of Spanish loanwords in Triqui consisting of 679 unique lexemes. The data was taken from both written and oral sources including loanwords found in a Triqui-Spanish dictionary (Hollenbach, 2004b), an article on the adaptation of Spanish words in Copala Triqui (Hollenbach, 1973b), consultations with a native Triqui consultant in Albany, New York, and 80 hours of Spanish-Triqui bilingual radio programming.

Hollenbach (1973b) is an article that lists over 400 loanwords as well as native calques. In many cases Barbara Hollenbach lists two or three variants of the same lexical item to represent various representations as produced by a primarily monolingual community in Oaxaca. Radio XEQIN is part of a series of indigenous radio programs sponsored by the *Centro para el Desarrollo del Pueblo Indígena* (CDI) or the Center for the Development of Indigenous People. It is broadcasted out of San Quintín in Baja California, Mexico. The primary audience for the program is a combination of bilingual and monolingual Triqui migrants in the Baja Peninsula as well as a wider audience of Triquis who listen to its broadcasts streamed over the internet. The radio announcer, Rafael Gómez Vázquez, is a proficient bilingual who moved to western Mexico in his adulthood. The Albany consultant is a highly proficient bilingual who has lived in Albany, New York, for over 15 years. He narrated the Triqui myth, was active in its translation and transcription, and has participated in hours of elicitation sessions where he has helped to identify various loans and calques and has given judgments of acceptability of different pronunciations of the many loans. Hollenbach (2004b) is a preliminary vocabulary of the language. It, along with a grammar (Hollenbach, 2004a) and dissertation (Hollenbach, 1984b), is the culmination of her fieldwork in the 1960s and 1970s. The first two, although they represent different time periods, have much in common since one describes the types of loanwords that Barbara Hollenbach was hearing around her during her fieldwork and the other is a representation of loanwords observed as part of radio broadcasts. The more formal nature of elicitations and the prescriptive nature of a dictionary make these two sources of data less comparable but informative in other ways.

The following table gives a breakdown of individual tokens organized by source and word type. Segments from radio data were analyzed and cut out in context using Praat voice analysis software. All words were then transcribed phonetically and entered into an SPSS database. Nonce borrowings have been included following Poplack and Meechan (1988) and Paradis and LaCharité (1997).

POS	Hollenbach 1973b	Hollenbach 2004b	Albany consultation	Radio XEQIN	TOTAL
Noun	356	125	215	562	1258
Verb	11	6	7	32	56
Adj	27	7	7	7	48
Adv	4	3	1	2	10
Other	5	1	1	7	14
prep	1	1	1	1	4
TOTAL	404	143	232	611	1390

Table 2: Overview of Data by Source and Part of Speech

In this corpus, nouns are the most borrowed category, a fact that is widely attested in the literature (Weinreich, 1968; Haugen, 1970; Thomason and Kaufman, 1988). The second-most borrowed category varies. In Hollenbach (1973b) adjectives are the second most borrowed feature and in the radio data it is verbs. The first case is most likely because the study was done in Oaxaca at a time when many farming terms were being taken from Spanish. The strong presence of verb nonce loans in the speech of bilinguals radio data is also unsurprising. Triqui has relatively few verbs and no process for deriving verbs from other categories (Hollenbach, 1984b:177). It is also worth noting that even though verbs are borrowed in the speech of competent bilinguals, they are consistently adapted phonetically.

(6) Examples of Adjective borrowing
a. manso *'tamed'* →/skuh^{5}maso^{4}/ (tamed animal or ox)
b. renco *'lame'* →rengo^{4}/ (only used for animals)

(7) Examples of Adaptation of verbs
a. pasear *'take a stroll'* →ka'anh^{32} basya^{4}/ (to go+stroll)
b. saludar *'send greetings'* →saluda^{4}/ (used in the context of radio broadcasts)

4 Analysis of Data

4.1 Variation in Voicing

The behavior of these obstruents in final syllables of Spanish loanwords confirms that Triqui is applying native rules of voicing to all obstruents at some level. In final syllables the phonemes remain faithful to the input and in non-final syllables there is variation as in (8). After nasals there is also variation as in (9).

(8) Maintenance Word Finally, Variation in Non-Final Syllables
a. cuidado '*be careful*' →/gudado^{4}/ and /tado^{4}/ but never /*gudato^{4}/ or /*tato^{4}/

(9) Variation after Nasals
a. San Quintín (a city in Mexico) →/sa.ngi.ndin^{4}/
b. gringo '*foreigner'* →/gringo^{4}/ and /grinko^{4}/

Only one example of voicing was found in a final syllable that didn't result from contact with a nasal. This one exception, Chraa^{5} Lagardo^{4}, meaning 'Lizard River' (Sp Río Lagarto) is the name of a town close to San Juan Copala and can be considered one of the oldest loans.

Although this cursory view of voicing patterns in Triqui seems to bode well for the traditional analysis, a closer look at the data will reveal one inconsistency.

4.2 The Influence of N-O Voicing on Voicing

In the corpus there were 227 words containing an N-O sequence (for examples of this type see §2.1 and §4.1). Table 3 shows the influence these N-O sequences have on obstruent voicing. What is immediately apparent is that, while there is a strong correlation between voicing and N-O, voicing outside of this context is also prevalent. For that reason, the rest of the study will not differentiate between neutralization due to contact with a nasal segment and in other contexts.

**Significant at p=.05* ***Significant at p=.01*	In words with nasal + obstruent sequence (N=227)	percentage
Bilabial voicing	17/31**	54.8%
Bilabial Devoicing	0/11	0%
Velar Voicing	8/11*	72.7%
Velar devoicing	2/14	14.2%
Dental voicing	65/132**	49.2%
Dental devoicing	7/45	15.5%

Table 3: Voicing of Obstruents in N-O Sequences

Also apparent from Table 3 is a disproportionately high level of velar voicing (72.7%) after nasals and the complete absence of bilabial devoicing. While both may be explained by small number of cases in the data, 25 cases of nasal-velar sequences and 42 cases of nasal-bilabial sequences, the fact that velar voicing increases while bilabial devoicing is categorically absent is significant. The next section will show that this lack of bilabial devoicing is consistent across the entire corpus.

4.3 Overall Patterns of Voicing

Table 4 (below) represents the percentage of words with voicing and devoicing in the entire dataset. From this table there are two preliminary observations; first, the bilabials show similar patterns of voicing to their dental and velar counterparts and, second, this lack of bilabial devoicing seems to generalize throughout the entire corpus.[3] While the low percentage of devoicing overall may be at play, 1% in velar obstruents and 2.1% in dental obstruents, the fact that bilabial devoicing is categorically absent is significant.

	Voice	Devoice
bilabial	81 (6.8 %)	0 (0%)
velar	106 (9%)	12 (1%)
dental	111 (9.4%)	25 (2.1%)

Table 4: Voicing and Devoicing of Obstruents in All Contexts

At face value this seems to support Hale and Reiss. Bilabials are not being treated exactly the same as their velar and dental counterparts, at least not when it comes to devoicing. A more detailed look at the linguistic factors (§4.3.1) and sociolinguistic patterns of voicing and devoicing (§4.3.2) shed some light on the matter.

4.3.1 Linguistic Motivations for Lack of Devoicing

One reason for this lack of devoicing may be that the production of a bilabial obstruent is masking the fact that the bilabial obstruent is not borrowed as such but rather adapted to the native bilabial glide, which in turn can have an obstruent-like realization. In (10) there are many examples of frication in bilabials, dentals and velars. Since Triqui velar and dental obstruents go through a process of lenition between vowels where velars can be realized as /k/, /g/ and /ɣ/ and dentals can be produced as /t/, /d/ and /ð/ (Hollenbach 1984b:64) it may be tempting to conclude that bilabials are also going through this same process.

(10) Lenition of Obstruents
  a. abogado (lawyer) →/aβoɣaðo4/.
  b. cubeta (bucket) →/guweta^{4}/
  c. caballo (horse) →/wayo^{4}/ or /kabayo^{4}/
  d. barrio (neighborhood) →/waryo^{4}/ or /βaryo^{4}/

There are two important differences that make it more likely that they are being adapted as the labiovelar glide instead of directly imported as a bilabial obstruent which then goes through a process of lenition. For one, the voiced bilabials in (10) have three realizations, a labiovelar /w/, a fricative realization /β/ and an obstruent-like pronunciation /b/. The voiced velars and dentals have only two. This is because the velar and dental fricatives are not part of the phonemic inventory while the bilabial fricative does exist as a realization of the labiovelar glide, which is a separate phoneme. A second tendency that favors the adaptation of bilabials as the glide instead of direct importation is the strong tendency for other labials such as the /f/ to be adapted into the bilabial glide. Words such as *fábrica*, meaning 'factory', are often pronounced /βa^{3}brika^{1}/ in the live radio broadcasts.

As levels of bilingualism increase, speakers will be more likely to import the Spanish bilabial obstruent as an obstruent rather than the glide. It may be that as younger speakers start to map this sound directly onto the borrowed voiced bilabial they will then have license to devoice it (see §6 for discussion of this).

[3] Although the bilabials seem to voice less than their velar and dental counterparts, when the number of input loanwords with the appropriate target phoneme are factored in (regardless of contact with nasal), bilabials are slightly more likely to voice than the dentals and velars.

4.3.2 The Influence of Sociolinguistic Factors on Obstruent Voicing

Table 5 summarizes the patterns of voicing across place of articulation and type of data and reflects only those words with the target structure in the input. The first observation to be made is that XEQIN Radio shows more faithfulness to the Spanish input than the Hollenbach (1973b) data. While this is partially due to the nature of live recorded data, the fact that this increase in faithfulness is relatively constant across all places of articulation is significant. The second general observation that comes out in this chart is that the data from the Albany consultant shows less voicing in bilabials only.

	Bilabial Voice N=81	Bilabial Devoice N=0	Velar Voice N=106	Velar Devoice N=12	Dental Voice N=111	Dental Devoice N=25
Hollenbach (1973b) N= 404	42/59 71%	0/51 0%	67/116 57.7%	1/44 2.2/%	63/126 50%	2/48 4.2%
Hollenbach (2004b) N= 143	8/25 32%	0/15 0%	4/49 8.1%	8/12 66.6%	5/49 10.8%	4/24 16.7%
Radio XEQIN N= 611	38/116 33%	0/81 0%	29/172 16.8%	5/67 7.4%	43/233 18.5%	13/112 11.6%
Albany Consult N= 232	4/28 14%	0/43 0%	26/78 33.3%	2/24 8.3%	25/93 26.8%	7/43 16.2%
TOTAL	92	0	130	16	136	26

Table 5: Voicing of Obstruents across Sources of Data

Rates of bilingualism have increased rapidly due to increased circular and diasporic migration between Oaxaca, western Mexico and the United States, and improved media and infrastructure in the Copala region. For this reason, today's speakers have access to the Spanish rules of voicing that speakers didn't have even 30 years ago. The speech recorded by Hollenbach (1973b) represented a primarily monolingual community, the XEQIN Radio data represents the more current speech of a bilingual individual living in diaspora. What is useful about comparing these two data sources is that decreased voicing is observed across all places of articulation, not just bilabial, and it becomes clear that as bilingualism increases so does access to the native rules increasing faithfulness to the input segment no matter its status as borrowed or native.

While increased levels of bilingualism do not differentiate between borrowed and native obstruents, carefulness of speech does. This can be seen in the increased faithfulness to the Spanish input in bilabials when compared to dentals and velars of the Albany Consultant. When asked to produce Spanish loanwords containing bilabials this speaker was much more likely to remain faithful to the bilabial obstruent then to the dentals or velars. Even more, the same Albany consultant –a Triqui dominant but very proficient bilingual— when asked to judge the acceptability of different pronunciations of loanwords accepted voiced and devoiced forms of loanwords with velar or dental obstruents but never the bilabial even when he produced them in his own speech. For example, the Triqui word for parakeet is /ʃtah^{32} periko^{4}/ (bird parakeet) the voiced form /ʃtah^{32} beriko^{4}/ is categorically unacceptable for the Albany consultant even though Triqui monolinguals and semi-speakers of Spanish produce this term as both /tah^{32} periko^{4}/ and /ʃtah^{32} beriko^{4}/.

5 Conclusion

In conclusion, Triqui rules of voicing can be generalized beyond dental and velar obstruents to include bilabial obstruents although there are linguistic factors and sociolinguistic patterns mitigating this process. While the lack of bilabial devoicing may, at first glance, support Hale and Reiss' claim, further examination of patterns of behavior in this language show that this may be due to the fact that Triqui has historically imported the voiceless bilabial and adapted the voiced bilabial as the native bilabial glide, which also has an obstruent realization. This would explain why there are many cases of bilabial voicing without the corresponding devoicing in the data.

Additionally, the fact that application of Triqui rules of voicing is much less likely to happen in speakers who have high competence in Spanish during elicitations, a much higher register, also has implications for Hale and Reiss' findings. Since their study was done in a controlled environment, it may be that the ability of the speakers and the formality of the setting caused them to remain true to the input. If the same segment of their study –the fronting of /ɬ/ before the non-native /æ/— had entered Georgian phonemic inventory in a more natural context it could be that this language would exhibit similar patterns to those of Copala Triqui.

Finally, while the claim that speakers will not generalize established rules to borrowed phonemes does not hold true in the case of Triqui bilabials, the counsel of Hale and Reiss to avoid broad generalizations has some interesting implications for Triqui bilabials. The fact that the bilabial glide also has bilabial obstruent realization may have been masking an underlying process that on the surface seemed to be a simple extension of native voicing rules. By taking a more systematic look at patterns of voicing it becomes apparent that these sounds have not been adapted in a parallel manner; one has been directly imported and the other has most likely been adapted to the native bilabial glide, at least until very recently. Additionally, the fact that this difference between careful and free speech exists in the application of these optional rules shows us that both careful and free speech need to be taken into account in order to fully understand possible generalization of native rules as well as sociolinguistic factors that may impede or even expedite this process.

6 Discussion

Although the data for this study does not show any bilabial devoicing, in very recent elicitations there have been a few examples of bilabial devoicing in the speech of an 18 year old balanced bilingual. In this example the Spanish loan for violin (Sp violin) in Triqui, as shown in (11), was produced with the voiceless bilabial rather than the voiced bilabial or the bilabial glide. Interestingly enough, Triqui dominant speakers most often reinterpret the word initial bilabial of this same loan as the Triqui bilabial glide.

(11) Example of bilabial devoicing of the word violin (Sp violin)

a. Young speaker	ya?ah^{5}	pilĩĩ^{4}
b. Older speakers	ya?ah^{5}	wilĩĩ^{4}
c. Gloss	string-instr	violin

Since this language tends to produce a voiceless (fortis) version of a phoneme word initially when it is preceded by a word final laryngeal coda (Hollenbach, personal communication) this example may actually be preliminary evidence of a jump in loanword adaptation between younger and older speakers. While the older speakers, even highly proficient bilinguals, may still be mapping the Spanish voiced bilabials onto the Triqui glide, which can then have a bilabial realization, the younger speakers, who are growing up with two languages from the very beginning, may be mapping this sound directly onto the borrowed voiced bilabial and thus have license to devoice it. More data will need to be collected from young speakers to verify this claim.

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