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INTERNAL MIGRATION AND ETHNICITY IN SANTIAGO

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Introduction

This chapter examines the Spanish spoken in Santiago, Chile, and some of the effects that globalization, social dynamics, migration, and ethnicity have had on it. We first contextualize Santiago's place on the national and global stage and then detail the particularizing features of Chilean Spanish, with emphasis on the high degree of sociolinguistic variation it manifests. We explore the attitudes of Santiago's inhabitants toward their own and other varieties of Spanish, toward English, and toward concepts of linguistic correctness, before reviewing a series of key language issues. The relationship between the Mapuche people and the Spanish language in Chile is then examined. We trace the history of the Mapuches, with emphasis on their migratory movements to Santiago, and then move on to the main focus of this chapter: monolingual Mapuche Spanish and the impact that migration to Santiago has had on it. We review the main features of the Spanish of Mapudungun–Spanish bilinguals and then present the results of an original study of two of these features in Mapuches who speak only Spanish: the voicing and/or lenition of /p/.

The frequency and distribution of these phenomena in speakers from the Araucanía region (the traditional Mapuche homeland) and in descendants of Mapuche migrants to Santiago are analyzed. The main findings are as follows: Mapuche Spanish monolinguals from both regions exhibit patterns of /p/ allophony that mirror those of Mapudungun–Spanish bilinguals, while being strikingly different from those reported for other varieties of Spanish. All Mapuche groups examined use non-canonical[1] allophones of /p/ at a far higher rate than the 0% that the literature predicts, and this use is significantly higher among Santiago Mapuches of both sexes than among their peers in Araucanía. We draw three main conclusions from these results. First, even two to four generations after migration, and in the absence of any contemporary influence from Mapudungun, Mapuche Spanish remains a stable, coherent entity, even among urban speakers for whom being Mapuche is a marginal aspect of identity. Second, the higher frequency of allophones associated with Mapuche Spanish detected in Santiago speakers probably began in the generation that migrated to the city and likely served to cement their ethnic identity and express intragroup solidarity in the face of a hostile dominant culture. And third, given that the speakers in our Santiago sample are only barely conscious of their Mapuche ancestry and do not consider it part of their identity, the further increase in non-canonical /p/ allophones in Santiago males is best explained as the result of this feature being reindexed to signal toughness in an insecure urban environment.

Santiago as a global city

The global context

Santiago, the capital of Chile, was founded in 1541. It became the capital of the Captaincy General of Chile, a marginal territory in the Spanish empire, and maintained its status as the capital after independence was declared in 1818. Today, it is a metropolis of 6.2 million inhabitants and accounts for approximately 35% of the country's total population of 17.6 million (Instituto Nacional de Estadísticas, 2018).[2]

Chile exhibits a great degree of geopolitical globalization, defined by Blommaert as the "old process" which "affects the deep social, political and economic fabric of societies" (2010 p. 13). It is highly dependent on international trade, which made up 56% of its GDP in 2016, up from 16.2% in 1972. Chile's exports consist mainly of raw materials, with copper accounting for 50.5%, followed by vegetable products (9.7%), wood and wood pulp (7.5%), and animal products (7.0%) (Gaulier & Zignano, 2010). Service and manufactured product exports are minimal.

Although Chile's economic policies are routinely praised by international institutions and corporations, and the country has experienced steady growth for the last two decades, its per capita income of US$21,967 is only slightly more than half of the OECD average of US$40,992 (World Bank, 2015). Furthermore, income inequality is a serious issue for the country. Its 2015 after-tax-and-transfer Gini coefficient of 45.4 was the second-highest in the OECD (higher is worse), far above the organization's average of 31.8 (OECD, 2018). The country's extreme socioeconomic disparities are reflected in the high degree of sociolinguistic variation that exists in its variety of Spanish.

Chile's consumption of cultural goods is deeply globalized. Television is the most important medium of mass communication in the country, reaching 99.3% of the country's households. In addition to over-the-air (OTA) broadcasting, which has achieved near-universal coverage, 61.1% of households have cable or satellite television subscriptions. These paid services are dominated by foreign programming, while 39.9% of OTA programs are also of foreign origin (ANATEL, 2013). Constant exposure to non-Chilean television programs may be one of the factors contributing to certain changes in the patterns of sociolinguistic variation among younger speakers. Radio in Chile is globalized to such an extent that local music makes up only 20.9% of programming (Del Real, 2015).

Internet access is widely available in Chile. As of September 2015, there were 14.95 wireline connections for every hundred inhabitants, plus 61.34 mobile internet connections (Subsecretaría de Telecomunicaciones, 2016a, 2016b). The top three uses of internet are obtaining information (92% of users), personal communication such as e-mail and social networking (89%), and education (74%) (Subsecretaría de Telecomunicaciones, 2015). We are aware of no studies of local versus global internet use in Chile, but it can be inferred that personal communication is a fundamentally local activity, being centered on family, friends, acquaintances, and colleagues. Information retrieval is likely to be mixed but predominantly local, due to in part to search engines' use of geolocation algorithms that provide users with geographically and linguistically local results, thereby deglobalizing the internet to some degree. Educational activities revolve around searching, with its attendant forced localization, but also include the frequent use of a handful of specific international websites such as Wikipedia and El Rincón del Vago.

While less influential than broadcast and electronic media, books still hold a place of some importance in Chile. The country has the second-highest annual rate of books read per capita (5.4 per year) of the nine Latin American countries surveyed in a recent study (Centro Regional para el Fomento del Libro en América Latina y el Caribe, 2012). However, both the publishing and importation of books are dominated by a handful of international conglomerates that heavily favor commercially successful titles with broad pan-Hispanic appeal, very few of which

are by Chilean writers. Local authors are largely consigned to small domestic publishers with limited print runs and distribution (Subercaseaux, 2014).

During the 17th century, the Spanish trafficked a relatively small number of Africans to Chile as slaves. This group was absorbed into the local population and now accounts for 2.44% of the ancestry of contemporary Chileans (Eyheramendy et al., 2015). In the 18th century, there was a wave of Basque immigration that would significantly change the composition of the country's ruling elite. A small number of British and French immigrants also arrived during this time period.

In the mid-19th century, the Chilean government began paying Europeans to settle in Chile, leading to perhaps 5,000 Germans settling in the south of the country between 1840 and 1870, along with a certain number of people of other nationalities, principally British, French, Italian, and Swiss. Between the 1880s and the Great Depression, significant numbers of foreigners settled in Chile's northern mining towns, attracted by the booming nitrate industry. As a result, by 1907, 4.1% of the country's population was foreign-born, of which 20% were Peruvians and 16% Bolivians (Stefoni, 2011).

During the first half of the 20th century, large numbers of mostly Christian Arabs migrated to Chile from the Levant. Unlike previous immigrant groups, they were neither courted nor welcomed (Olguín Tenorio & Peña González, 1990). Spaniards made up the other major group of immigrants during this period, numbering around 45,000 in the early 1930s. Though they did not typically experience the same discrimination many Arabs faced, they were not considered desirable. When some 430,000 fled Spain at the beginning of 1939, Chile accepted only about 2,000 of them, and their arrival was lambasted by much of the press (Almonacid Zapata, 2004).

A small number of Jews, mostly from Eastern Europe, trickled into Chile in the late 19th and early 20th centuries. This stopped abruptly in 1927, when the country banned all Jewish immigration. In 1938 it adopted an open-door policy toward the immigration of Jews in light of their persecution by the Nazis, but Chilean consular officials openly rebelled against this policy and most refused to grant Jews visas. As a result, only some 12,000 managed to enter the country during this period (Brahm García & Montes Arraztoa, 2012).

After reaching a peak of 4.1% in 1907, the percentage of immigrants in the Chilean population decreased in each subsequent decade, hitting a low of 0.7% in 1982. Beginning in the 1990s, however, immigration patterns changed dramatically. Immediately after the end of the Pinochet dictatorship, the country's foreign-born population grew only slightly, to 0.8% in 1992. Over the next quarter century, however, a continually increasing upward trend has been observed. By 2002, immigrants made up 1.2% of the population, increasing to 1.8% in 2010, 2.3% in 2014, and 4.4% in 2017 (Instituto Nacional de Estadísticas, 2018). This new wave of immigration is dominated by Spanish speakers. At present, Peruvians constitute the single largest foreign-born group in Chile (25.2%), followed by Colombians (14.1%), Venezuelans (11.1%), Bolivians (9.9%), Argentineans (8.9%), and Haitians (8.4%), with the majority of immigrants (65.2%) settling in the Santiago metropolitan area (Instituto Nacional de Estadísticas, 2018). Although most immigrants are motivated by economic factors, they are on average no poorer than their Chilean-born counterparts. Only 31.5% are in the lowest two income quintiles (earning up to US$185 per month), compared to 44.6% of the Chilean-born population (Ministerio de Desarrollo Social, 2015).

Finally, special mention must be made of Venezuelan and Haitian immigrants. Though not yet reflected in official statistics, which are published with a lag of two or more years, an unprecedented number of citizens of these two countries has been entering Chile on short-term tourist visas and subsequently remaining—98,374 Venezuelans and 93,782 Haitians in the first 11 months of 2017 alone (Vedoya, 2017). If this trend holds, they will soon comprise two of the largest immigrant groups in the country, with Haitians becoming the only major one that does

not speak Spanish natively. However, a rapidly growing sense of alarm about immigration from Haiti has taken hold in some sectors, and a bill that would require Haitians to obtain visas before entering Chile even as tourists has already been proposed. The influence that immigration has had on Chilean Spanish is examined below.

The national context

Chile is a hyper-centralized state, with no effective political power structures between the highest (national) and lowest (municipal) levels of government. Although the country is divided into 15 regions, which are further subdivided into 54 provinces, both regional and provincial executives are named directly by the president, serve at his or her pleasure, and have little power. Additionally, the country's ministries implement their policies at the regional level directly, bypassing lower levels of government. Only at the local level is there any sort of meaningful non-national political activity, but it is severely hamstrung by municipalities' limited power, purview, and funding.

Hyper-centralization extends to virtually every sphere of Chilean society. The entire country watches Santiago's television channels, listens to its radio stations, and reads its newspapers. In more populous cities, these may be supplemented by a small number of local television and radio stations with predominantly religious or community access programming. Local newspapers are somewhat more common, although most are published by, and largely filled with content from, a single Santiago-based newspaper conglomerate. Likewise, the majority of the country's universities are located in Santiago, most of its books are published there, many medical procedures are performed only in its hospitals, and less-common consumer products can only be found there. Furthermore, nearly all corporations and NGOs have their headquarters in Santiago. In short, all forms of power, from political and economic to social and intellectual, are concentrated in Santiago. As a result, the city's influence over the rest of the country is far greater than even its massive relative size would suggest. This hegemonic hyper-centralization is likely the reason that Chilean Spanish exhibits surprisingly little regional variation, in spite of the fact that it is spoken in a territory that is approximately 4,300 km long. It also accounts for the fact that language change in Chile appears to radiate outward from Santiago.

Language use

Outside of a few recently arrived immigrant communities, Chilean Spanish is for all intents and purposes the only language spoken in Santiago. With the rarest of exceptions, English is not a viable language for even basic communication. At the same time, while there are estimated to be over half a million Mapuches in Santiago, factors such as long-term assimilatory pressures and systematic discrimination by the dominant Hispano-Chilean majority have long since put an end to inter-generational transmission of the Mapuche language, Mapudungun, which is scarcely spoken. Lagos (2012) found that only 6.5% of Santiago Mapuches judged themselves to be highly competent in Mapudungun, while only 40–50% were familiar with even the most basic vocabulary.

Particularizing tendencies of Spanish language use

This section describes the main particularizing features of Chilean Spanish. While a certain number may be found in some other geolects of Spanish, they are sufficiently uncommon or little known as to warrant their inclusion here. The subsequent section details the main characteristics of Mapuche Spanish, the language variety spoken by many Chileans of Mapuche ancestry and the subject of the study presented in this chapter.

The uniquely Chilean lexicon is vast, as exemplified by the *Diccionario ejemplificado de chilenismos y otros usos diferenciales del español de Chile (DECh)* (Morales Pettorino, Quiroz, & Peña Álvarez, 1984, 1985, 1986, 1987, 1998; Morales Pettorino, Quiroz, & Arancibia, 2006a, 2006b, 2006c; Morales Pettorino & Quiroz, 2010a, 2010b). This ten-volume work, which seeks to include only lexemes or meanings not present in the Spanish Royal Academy's dictionary (DRAE), contains a total of 11,322 pages. While a certain number of its entries are not exclusively Chilean, the remaining lexicon nonetheless dwarfs the allegedly comprehensive and putatively Pan-Hispanic vocabulary of the 23rd edition of the DRAE, which is a fifth the size of the DECh. The specific contribution of immigrant and indigenous languages to the Chilean lexicon is addressed later.

The second-person singular forms *tú* and *vos* coexist in Chilean Spanish, having acquired different, complementary connotations. *Tuteo* is the unmarked familiar form and functions much as it does in other varieties of Spanish. Verbal *voseo*, in which the pronoun is omitted, and mixed verbal voseo, where *tú* is used with the *vos* verbal paradigm, communicate these same sentiments somewhat more intensely. Pronominal *voseo*, in which the pronoun *vos* is used explicitly along with the *voseo* conjugation (and occasionally the *tuteo* conjugation), signals a high degree of emotional intensification and is most commonly used to communicate negative sentiments such as aggression, though it can also serve to transmit affection between close friends (but rarely family members or romantic partners) (for a more detailed account, see Morales Pettorino, 1998; Bishop & Michnowicz, 2010; Helincks, 2012, 2015; Pulido & Rivadeneira, 2017). Morphologically, the Chilean *voseo* paradigm is unique in the Spanish-speaking world, as is detailed in Table 9.1.

The verb *ser*, "to be," has developed socially indexed allomorphs in the present indicative of the *voseo* paradigm: *soi* is the usual form in the lower and lower-middle classes, while *eris* or *erís* is used in the middle, upper-middle, and upper classes (Oyanedel & Samaniego, 1998). In the Araucanía region, and possibly further south, the form *so* (with no final /s/) is not uncommon, possibly due to influence from Argentinean Spanish, where the corresponding form is *sos*.

Among the morphological and syntactic particularities of Chilean Spanish are clitic reduplication in the lower socioeconomic strata (***Te** voy a llamarte*) (Silva-Corvalán, 2001, pp. 177–178); the use of *ya* instead of *sí* as an affirmative response to questions seeking the speaker's assent (*¿Vamos a la playa? ¡**Ya**!*); the use of the first person plural imperative (rather than the indicative) in questions seeking assent (*¿**Cantemos** más fuerte?*); the use of the definite article with female (and, less commonly, male) names (*¿**La** Viviana llegó?*); and the copulative

Table 9.1 Verbal paradigm of Chilean Voseo

	-AR	*-ER*	*-IR*	*IRREGULAR*		
	hablar	*comer*	*partir*	*ser*	*estar*	*haber*
Present indicative	hablái	comí(s)	partí(s)	soi/eri(s)/erí(s)/so	estái	hai/habí(s)
Present subjunctive	hablí(s)	comái	partái	seai/seái	está(s)	hayái
Imperfect indicative	hablabai	comíai	partíai	erai	estabai	habíai
Imperfect subjunctive	hablarai	comierai	partierai	fuerai	estuvierai	hubierai
Preterit indicative	hablaste(s)	comiste(s)	partiste(s)	fuiste(s)	estuviste(s)	—
Future indicative	hablarái	comerái	partirái	serái	estarái	habrái
	hablarís	comerís	partirís	serís	estarís	habrís
Conditional	hablaríai	comeríai	partiríai	seríai	estaríai	habríai

con (***Con Daniel fuimos*** *a la playa*, where the speaker and Daniel (and no one else) went to the beach together, whereas in other varieties this would mean the speaker plus an unnamed third party went to the beach with Daniel). With regard to TMA, the present progressive occurs with great frequency in Chilean Spanish and has displaced the simple present in non-iterative constructions (*¿Me puedes ayudar? No,* ***estoy viendo*** *tele*, as opposed to **No,* ***veo*** *tele*). In addition, the fusion of the *-er* and *-ir* verbal paradigms in favor of *-ir* that characterizes the Chilean *voseo* (e.g. *comís*, as opposed to *comés* in other varieties) also manifests itself in the present tense of the first-person plural in lower and lower-middle class speakers (***Tenimos*** *que hablar luego*; *Siempre lo* ***hacimos***).

Based on data from a large-scale study of the Concepción metropolitan region, the Chilean vowel system is highly mid-centralized, utilizing a far smaller proportion of the available articulatory and acoustic space than other varieties (Sadowsky, forthcoming). In both men and women, all vowels have different allophones in pre-stressed, stressed, and post-stressed syllables, rather than the stable unstressed vowels long asserted to be the norm in Spanish. Vowel allophony is known to correlate with at least two social variables: sex and socioeconomic level (Sadowsky, 2016).

With regard to consonants, Chilean Spanish is highly distinctive. Though said to have disappeared from Spanish toward the end of the medieval period, the voiced labiodentals [v] and [ʋ] are not only present in Chilean Spanish but are the most common allophones of /b/ ("**b**urro," "**v**aca") (Sadowsky, 2010; Vergara, 2012, 2013; Vergara & Pérez, 2013). Before front vowels, the velars /k/ ("**c**asa," "**q**ueso," "**k**ilo"), /ɡ/ ("**g**uinda") (with its allophones [ɡ ɣ̞ ɣ̟]), and /x/ ("**j**irafa," "**g**ente," "**X**imena") are palatalized to [c], [ɟ ɟ̟ j], and [ç], respectively. The voiceless stops /p/ ("**p**asto"), /t̪/ ("**t**apa"), and /k/ are frequently voiced, becoming [b], [d̪], and [ɡ] (or [ɟ], when /k/ is followed by a front vowel). In speakers of Mapuche Spanish and of certain sociolects, voiceless stops may also be lenited or simultaneously lenited and voiced, becoming fricatives or even approximants (see the "Main characteristics of Mapuche Spanish" section).

It is not currently known if the phenomena mentioned previously index any social characteristics. Those presented next, on the other hand, have indeed been shown to correlate with social variables (Sadowsky & Salamanca, 2011; Sadowsky, 2015).

The phoneme /t͡ʃ/ ("le**ch**e") has eight allophones, all socially indexed. The most salient of these are the voiceless postdental affricate [t̪ˢ],[3] which is highly prestigious, and the voiceless postalveolar fricative [ʃ], which is strongly stigmatized. Young women of all social strata but the lowest are adopting [t̪ˢ] en masse, as have a small but growing number of young men.

In utterance-final position, /ɾ/ ("Voy a come**r**") has traditionally been a fricative ([ɹ̝̊] or [ɹ̠̊˔][4]) in all social classes, but in the last 15 to 20 years this pronunciation has become highly stigmatized, as has the postalveolar fricative allophone of /ɟ/ ("**y**o," 'e**ll**a'), [ʒ], and both have largely disappeared in younger speakers.

The phoneme /t̪ɾ/[5] ('a**tr**ás') has nine allophones, of which the fricatives [ɹ̠̊˔] and [ʂ] are strongly stigmatized, along with the affricate [t͡ʂ].[6] In adult and senior speakers, the affricates [t̪ɹ̠̊˔] and [tˢ] (which are distinguished by their ratio of occlusion to frication) are the most common allophones in the upper and upper-middle classes and compete with [ɹ̠̊˔], [ʂ], and [t͡ʂ] in the lower and lower-middle classes. In the middle class, [t̪ɾ] now predominates. In the younger generation, speakers of all socioeconomic levels have adopted [t̪ɾ] on a massive scale.

The phoneme /r/ ("pe**rr**o," "**r**ojo," "en**r**edar") has eight allophones, of which three are moderately stigmatized ([dʲ], [d̪ɹ̠˔], and [ᵈɹ̠˔]) and two are strongly stigmatized ([ɹ̝̊] and [ɹ̠˔]). In the upper and upper-middle classes, the predominant allophones are [ɹ] and [ɹ̠], both of which are socially unmarked. In young speakers, [r] has been adopted across the social spectrum.

Notably, the changes in the allophony of /r/ and /t͡r/ among younger speakers are likely the result of high levels of exposure to global Spanish-language media, as the allophones adopted are traditionally rare in Chile but are the only ones used in mass media produced or dubbed in other Spanish geolects.

The various sociophonetic changes in the speech of the young generation of speakers that have been described thus far can be interpreted as a process of sociolect leveling, given that the phonetic and phonological differences between the consonant allophones of the various socioeconomic groups are effectively being reduced. However, the leveling process affecting these five phonemes is not necessarily concomitant with an overall decrease in the use of sociolinguistic variables to create, project, and detect social identities. In fact, the patterns of socially determined vowel allophony previously mentioned may be increasing in younger speakers, while highly stigmatized allophones of /s/ ("pa**s**to") and /d̪/ ("ca**d**a") are being maintained, even as new ones arise. Likewise, [s] in coda position (/ˈbis.t̪o/→[ˈʋis.t̪o] instead of the usual [ˈʋih.t̪o]) and [ð] in intervocalic position (/ˈna.d̪a/→[ˈna.ða] instead of the socially unmarked [ˈna.d̪a] or [naː]) have acquired low social prestige, probably due to their origins in hypercorrection (resulting from common admonitions to "say all your letters," "enunciate properly," and so on). The traditional Chilean sociophonetic indexicality system is therefore being reorganized rather than simplified.

Language attitudes

Rare is the Chilean who does not believe he and his countrymen speak a corrupt and impoverished variety of Spanish. Indeed, the geolect that Chileans consider to be most "incorrect" is that of Chile itself (Rojas, 2012). This belief transcends social class and educational level: university-educated members of the upper class are just as likely to be convinced that they speak poorly as members of the working class who did not finish their primary education (though each social class believes that the classes below it speak even "worse"). It cannot be said, however, that Peninsular Spanish is a linguistic model in the country. In fact, Chileans who return from Spain speaking with even the slightest Iberian accent are almost certain to be ridiculed.

Only in the case of the Royal Academy's dictionary (DRAE) does Spain serve in some limited sense as a linguistic model in Chile. This is in part due to the fact that, with the very recent exceptions of Argentina (Plager, 2008) and Mexico (Ávila & Aguilar Zéleny, 2003; Lara, 2010, 2011), no non-Peninsular general-purpose dictionary[7] has managed to be published, leaving speakers in Chile and most other Latin American countries with no alternative but to use the DRAE (or another dictionary from Spain, though this is uncommon). And in part, it is a result of centuries of Spanish linguistic imperialism, which has sought, with no small degree of success, to obtain for Peninsular Spanish a privileged status among the different varieties of the language (see, for example, Barrios, 2011; Del Valle, 2013; Moreno Cabrera, 2011; Senz, 2011). As a result, the RAE's dictionary is perceived by many Chileans as the arbiter of which words "exist," and the inclusion of Chilean terms in it is celebrated by many as a national achievement.

The place of English in Chile

There is broad consensus in Chile that the ability to speak and write English is important, especially for career advancement and higher education, given that the country's economy is largely export-based and the bulk of international scientific literature is published in English (Centro de Investigación y Desarrollo de la Educación, 2004). The Chilean government likewise

places a high value on English. Starting in the 1990s, successive administrations have made attempts to extend and improve the teaching of English in primary and secondary schools. The progress achieved by these initiatives, however, has been minimal. The results of the Ministry of Education's 2012 SIMCE test of English listening and reading skills, for example, show that 55.4% of the country's 11th graders scored below the Common European Framework of Reference for Languages' lowest level, A1 (Agencia de Calidad de la Educación, 2012, p. 7). Furthermore, there is a massive socioeconomic disparity in English ability, as evidenced by the number of students reaching either the A2 or B1 levels: 0.8% in the lower class, 15.9% in the middle class, and 83.3% in the upper class (Agencia de Calidad de la Educación, 2012, p. 12). Poor results are also evidenced in the adult population (Education First, 2015). In sum, while the country as a whole is aware of the usefulness of English for global trade, professional development, and education, few people can actually use the language in any functional sense.

Immigration and Spanish in Santiago

The historical migratory processes that occurred in Chile had virtually no linguistic impact, aside from scattered lexical borrowings, mainly from English. Most of the Italian and German loanwords that Prieto (1993, 2002) detected in his studies of Santiago newspapers and magazines either entered Spanish before the arrival of these immigrant groups in Chile or are domain-specific technical terms. The same occurred with French loanwords. The languages of other historic immigrant groups have left almost no trace. This is not to say that Chileans have an aversion to foreign words. On the contrary, in more modern times they have enthusiastically adopted a large number of Anglicisms, along with a smaller number of terms from other European languages (see Gerding, Fuentes Morrison, & Kotz, 2012 for a comprehensive analysis). Thus, the explanation for the minimal linguistic influence of historical immigrant groups in Chile is not to be found in any sort of linguistic purism. Rather, a combination of segregation and xenophobia directed at immigrant speakers is likely the cause.

More recently, the influx of immigrants that began in the 1990s has had several linguistic consequences. A relatively large number of Colombian speech and language therapists (SLTs) have settled in Chile over the last decade, and there is anecdotal evidence that dialectal differences lead them to over-diagnose various speech disorders in Chilean patients. Likewise, Chilean SLTs working in the educational system are believed to be diagnosing specific language impairment in Peruvian and other Spanish-speaking immigrant preschoolers at a rate far higher than in Chilean students. This diagnosis can lead children to be placed in "language schools" (a specific type of special needs school), where they are provided with speech therapy that may last for several years. Although we are aware of no studies of the effects of such practices in Chile, we must wonder about the consequences of both placing perfectly healthy children in segregated special needs establishments and pathologizing their native language variety while trying to forcibly alter it. It should be noted that these same practices affect Chilean children of the lower socio-economic strata, as well as those of Mapuche ethnicity, due to the fact that both of their language varieties are considered "sub-standard" by many Chilean SLTs. Ironically, outside the medicalized setting of SLT, Peruvian Spanish is considered to be the most "correct" variety of the language by over a third of Santiago residents (Rojas & Avilés, 2013). This may be due to the disparity between Chileans' idealized version of Peruvian Spanish (likely based on Lima speech) and the varieties actually spoken by many of the immigrants from that country. Andean Spanish, in particular, diverges significantly from prestigious Lima speech (see Klee & Caravedo in Chapter 6 of this volume; Klee, 1990; Klee & Caravedo, 2006; Escobar, 2011; Muntendam, 2013).

Indigenous languages and Spanish in Santiago

In the late 19th century, German-Chilean linguist Rudolf Lenz claimed that lower-class Chileans spoke essentially "Spanish with Mapuche sounds" (1893/1940, p. 249), citing ten phonetic or phonological phenomena as evidence. While most scholars of Hispanic linguistics have rejected the totality of Lenz's hypotheses, at least three of the phenomena he mentions probably did in fact arise from contact with Mapudungun: /r/→[ɻ̟] and [ɹ̝], /t͡ɾ/→[t͡ʃ], [t͡ʂ], [ɻ̟] and [ʂ], and the extreme palatalization of [k], [g], and [x] before /i/ and /e/.[8] Furthermore, there is a growing body of evidence suggesting that certain other Chilean Spanish features arose from contact with Mapudungun, including the phonetic configuration of the vowel system (Sadowsky forthcoming), a prosodic pattern known as the "intonational plateau" (Rogers, 2016), and specific patterns of /p/ allophony, as described in this chapter.

Paradoxically, the Mapuche contribution to the Chilean lexicon—by far the most easily modified linguistic system—is minimal. Setting aside toponyms and words for local plants and animals, Salas (1996) estimates the number of Mapuche loanwords at 40 to 50 and further notes that none is used in "educated speech." Given that a century ago Lenz documented approximately 1,650 indigenous loans in his *Diccionario etimolójico* (1905, 1910), a large number of which came from Mapudungun, the most likely explanation for their paucity in modern Chilean Spanish is that speakers began to consciously shun them due to the low status of Mapuches in Hispano-Chilean society.

A more abundant source of indigenous loanwords in Chilean Spanish is Quechua, which was spoken from the northernmost part of the country to the Maule River in the south during the century prior to the Spanish invasion, when this territory was part of the Inca Empire. Prieto (2006) documents some 210 words from Quechua in common usage in Santiago's newspapers, and in speech this number is undoubtedly higher. On the other hand, Aymara contributed virtually no words to Chilean Spanish outside of the far north of the country, where it was once spoken by a significant minority.

Key issues

Many linguistic issues and areas remain either under-researched or entirely unstudied in the Chilean context. In this section, we seek to highlight some of these, with the hope of spurring future research.

Basic research

While there are a large number of dictionaries and glossaries of Chileanisms, prepared by both aficionados and professionals, there is still no dictionary of Chilean Spanish in the traditional sense of the word. As the country already has academics with lexicographical training, large corpora of written and spoken Spanish (Sadowsky, in preparation, 2006; San Martín & Guerrero, 2015), and systems of government grants for both scientific research and the production of books, it would seem that all that is lacking is the ideological will to follow in the footsteps of Mexico and Argentina in creating a non-Peninsular general-purpose dictionary.

The same can be said of grammars. Though there is less grammatical than lexical variation among Spanish geolects, Chilean Spanish is certainly not identical to other varieties, and a comprehensive descriptive grammar of it would be most welcome, for both research and educational purposes.

In more general terms, a significant proportion of linguistic research on Chilean Spanish relies upon inadequate speaker samples or samples that include only speakers who the authors—

using criteria that are rarely made explicit—consider to be speakers of "the educated norm," "standard Spanish," "model Spanish," or some other euphemism for the speech of university-educated members of the upper-middle and upper social classes. This makes the studies in question impossible to replicate and of dubious generalizability, even to other speakers in the same region of Chile, while leaving the language of a large proportion of the population—the lower and lower-middle classes—mostly unstudied.

Sociolinguistic variation and language change

The primary driver of language variation and change in Chile are internally motivated social dynamics. Chilean society exhibits a very high degree of socioeconomic stratification, along with limited social mobility. This is accompanied by persistent and intense classism, socioeconomic discrimination, social and educational segregation, and wealth distribution inequality (see, for example, Bengoa, 2018; Garretón & Cumsille, 2002; Núñez & Gutiérrez, 2004; Rodríguez & Winchester, 2001; Ruiz-Tagle, 2016; Sabatini & Brain, 2008). In such a context, it is not surprising that the construction and recognition of social identities through language is a vital component of life in Chilean society, as it can affect everything from peer acceptance to career opportunities and wages. The high degree of linguistic insecurity of Chilean Spanish speakers further facilitates language change, whether by promoting hypercorrection or by making speakers more open to adopting new speech forms that may appear as more prestigious or less stigmatized.

In spite of the unparalleled importance of social factors in Chilean Spanish, there has been surprisingly little sociolinguistic research on this language variety. The consonant system of all socioeconomic levels of Chilean society is cataloged by Sadowsky and Salamanca (2011), while both traditional patterns of sociolinguistic variation in Chilean consonants and the changes these patterns are undergoing in young speakers are analyzed by Sadowsky (2015). The sociolinguistic variation of vowels is detailed by Sadowsky (2012). Figueroa et al. (2013) analyze speakers' perception of the various allophones of /t͡r/, /r/, /t͡ʃ/, and /ʝ/, finding evidence to support the idea that the fricative allophones of these phonemes are stigmatized. Crisosto et al. (2015) study the vowels of male and female speakers in an ultimately unsuccessful attempt to find acoustic correlates of sexual orientation. Though not a linguistic work, Contardo (2008) provides an unparalleled account of socioeconomically determined lexical variation in Chilean Spanish. Balboa et al. (2012) study the syntactic complexity of the speech of upper- and lower-class Chileans. Finally, the role of social variables in various discourse-level phenomena is analyzed by San Martín (2011, 2013), San Martín & Guerrero (2013), Guerrero (2013, 2014), and Arriagada & Guerrero (2016).

Going forward, one of the more pressing needs of Chilean sociolinguistics is to establish a minimal level of methodological standardization, especially regarding social stratification techniques, which, if used at all, vary enormously between researchers, making comparison highly problematic and replication essentially impossible.

Minority languages and language varieties

Minority languages and non-prestige varieties of Spanish constitute another area of linguistic research in need of more attention. While there is a sizable Mapuche population in Santiago, existing research has not gone beyond attempting to assess the vitality of their heritage language, Mapudungun (see Lagos, 2012). The effectiveness of the various revitalization efforts and bilingual intercultural education programs that exist, whether in Santiago or elsewhere, has also

not been investigated. Likewise, the other indigenous languages spoken by Chileans (primarily Aymara, Quechua, and Rapa Nui) have received scant attention from linguists in general and none in the context of Santiago.

There is a reasonable amount of research on the Spanish spoken by bilingual Mapuches in Argentina and the south of Chile and a handful of studies on the speech of Spanish-monolingual Mapuches in Argentina. However, with the exception of the study presented in this chapter, Mapuche Spanish in Santiago, and in the context of migration, has not been investigated.

Finally, the recent surge in immigration to Chile is producing new dynamics between Chilean Spanish and other varieties of the language, as well as certain other languages with little or no historical presence in the country, such as Haitian Creole (see Alvarado-Pavez, 2016). These phenomena should provide ample ground for research in the near future.

The effects of migration on Mapuche Spanish

This section presents the results of a study of the effects that migration to Santiago has had on Mapuche Spanish, an ethnolect that arose from the contact between Mapudungun and Chilean (and some varieties of Argentinean) Spanish, and which is currently spoken by many Mapuches and some non-Mapuches. The prevalence of two Mapuche Spanish features (the lenition and/or voicing of /p/) is analyzed in two groups of Spanish-monolingual Mapuches. The first group consists of lifelong residents of rural areas of Chile's Araucanía region (the center of the traditional Mapuche territory); the second is made up of the Santiago-raised descendants of people who migrated from the same areas one or more generations ago.

The Mapuches are an indigenous people native to southern Chile and southwestern Argentina. They once inhabited a territory stretching from the Choapa river in Chile's northern Coquimbo region to the Chiloé archipelago in the far south (Bengoa, 2004), before being driven southward by the Incas in the late 15th and early 16th centuries. In the mid-16th century, the Spanish invaded from the north, founding Santiago in 1541. At that time, the area was populated predominantly by peoples belonging to the northern branch of the Mapuche people, the Picunches. By the end of the 16th century, this group had been decimated by disease, poor living conditions, and the dismantlement of their social and economic structures. The surviving Picunches would ultimately disappear as a distinct people due to assimilation and *mestizaje* (Bengoa, 2004, pp. 76–77).

During the 350 years following the founding of Santiago, in what is known as the Arauco War, the Spanish made repeated forays into Mapuche territory, founding cities and building forts, only to be met with fierce resistance. This resulted in a fluid stalemate in which a core Mapuche territory, centered on the current Bío-Bío, Arauco, Malleco, and Cautín provinces, remained essentially intact (Adelaar & Muysken, 2004).

In order to satisfy the growing demand for forced laborers in Santiago, the Spanish began to capture and transfer distant indigenous populations to the city, with the 1575 relocation of Huilliches (a southern branch of the Mapuches) being one of the first such cases. Santiago was further populated by Mapuches captured in the Arauco War. By the beginning of the 17th century, the city's population was 18.84% Spanish, 7.41% mestizo, 6.18% African, and 67.57% indigenous, with 78.65% of this latter group hailing from regions other than Santiago (De Ramón, 2000, pp. 37–40).

In the decades following Chilean independence in 1818, the Mapuche territory in the south retained a large degree of autonomy. This came to an abrupt end in the early 1880s as a result of the military campaign known as the "Pacification of Araucanía," in which the Chilean army staged an invasion of the remaining Mapuche-controlled territories. Mapuches who survived

this campaign, which has been described as an ethnocide (e.g. Saavedra Peláez, 2002), were forcibly resettled in small, isolated reservations (*reducciones*). This was followed by several decades of systematic usurpation of even these limited and often undesirable lands by non-Mapuche settlers. This severely disrupted traditional Mapuche family, social, economic, and political structures and generated significant impoverishment and displacement (Imilan, 2009). In the 1970s and 1980s, the Pinochet dictatorship largely put an end to collective or community-based land ownership, further fragmenting the Mapuche communities in the south.

Since the early 1990s the country has witnessed what can rightfully be called a Mapuche renaissance, which has been marked by claims for the return of ancestral lands, the creation or expansion of a significant number of Mapuche social and political organizations, a growing sense of ethnic pride, and an unprecedented interest in Mapuche culture and language by Mapuches and non-Mapuches alike. The portrayal of Mapuches in the mass media, on the other hand, focuses relentlessly on the sporadic acts of property damage and very occasional acts of violence that occur in the context of what is dubbed "the Mapuche Conflict," which revolves around land issues in the south. The media paint the Mapuches as a marginal, violent, primitive, lazy, and almost exclusively rural people.

The number of Mapuches in Chile is a contentious matter. The 1992, 2002, 2012, and 2017 censuses all employed different questions about ethnicity, making it problematic to compare results. Furthermore, the 1992 census arbitrarily excluded Mapuches under age 14 from the final tally, while the 2012 census was plagued by such severe design and implementation issues that it was withdrawn by the government on the recommendation of an international panel of experts (Instituto Nacional de Estadísticas, 2014). With these caveats in mind, the 2017 census reports 1,745,146 Mapuches out of a total population of 17,574,003, making them 9.9% of the country's inhabitants (Instituto Nacional de Estadísticas, 2018).

Records of Mapuche migration to urban centers are notoriously scarce; Bello (2002, p. 42) calls it "one of the least studied and least understood aspects of Chile." De Ramón (2000, p. 79) observes that in 1695, while rural landowners around the Santiago area complained of a severe shortage of (indigenous and mestizo) laborers, Santiago authorities were struggling with a sudden population surge, which would seem indicative of an extensive migratory process. The same author posits that the growth of Santiago's population from the 17th to early 19th centuries can only be accounted for by migration, as the city's high mortality rate and significant number of abortions preclude natural demographic expansion as the cause (2000, pp. 91–92). Given Chile's current ethnic composition, with a population-level indigenous DNA admixture of 40% to 49% depending on the region (Eyheramendy et al., 2015), and the fact that Mapuches are the country's most numerous indigenous population by several orders of magnitude, it can be assumed that the majority of these migrants were either Mapuches or Mapuche-Spanish mestizos.

By the mid-20th century, Mapuche migration to Santiago was occurring on a massive scale, driven by the collapse of the inefficient *latifundio*-based rural economy, which left young rural Mapuches with few options other than moving to cities. In 2017, an estimated 549,258 Mapuches (31.5% of Chile's total Mapuche population) lived in Santiago, making up 8.8% of the city's 6,227,944 inhabitants (Instituto Nacional de Estadísticas, 2018).

The Mapuche language, referred to most commonly as Mapudungun or Mapuzungun, is a polysynthetic and agglutinative isolate with some 144,000 speakers in Chile (Zúñiga, 2007) and around 8,400 in Argentina (Instituto Nacional de Estadísticas y Censos, 2005),[9] virtually all of whom are bilingual in Spanish. It is not an official language of Chile or Argentina, and it is not used as a language of instruction in either country's educational system.

The Spanish of Mapuches

Contact variety vs. ethnolect

The Spanish spoken by Mapuches has been the subject of a fair amount of research (see, for example, Hernández & Ramos, 1978; Acuña, 1987; Malvestitti, 1993; Acuña & Menegotto, 1995, 1996; Álvarez-Santullano & Contreras, 1995; Contreras & Álvarez-Santullano, 1997; Contreras, 1999, 2005; Martínez, 2001, 2008; Díaz-Fernández, 2002; Ludwig, 2002; Muñoz, Musci, & Fernández Garay, 2003; Fontanella de Weinberg, 2004; C. Fernández, 2005; Spinelli, 2005; C. A. Fernández, 2010; Olate, Wittig, & Hasler 2014). However, much of it is impressionistic or anecdotal in nature, and the empirical studies that do exist typically rely upon extremely small speaker samples: Hernández and Ramos (1978) and Ludwig (2002) analyze a single speaker each, for example, while Álvarez-Santullano and Contreras (1995) study only three speakers.

Furthermore, the vast majority of research concerns itself solely with the speech of Spanish–Mapudungun bilinguals. This has unintentionally created two misperceptions about the Spanish spoken by Mapuches in general. First, it has given rise to the idea that its characteristic linguistic features occur only in bilinguals and therefore are exclusively the result of ongoing language contact involving the imperfect learning of Spanish, simplification, the transfer of features from Mapudungun, and other contact processes. Second, it has firmly entrenched the unspoken assumption that the speech of Spanish-monolingual Mapuches is identical to that of Hispano-Chileans of the same socioeconomic status and regional origin.

It is important to distinguish clearly between bilingual and Spanish-monolingual Mapuches. The former speak a contact variety that is inherently heterogeneous and unstable, destined to exist only as long as bilinguals remain. We will refer to this as "Mapuche Contact Spanish."[10] In contrast, the Spanish of Mapuche monolinguals, which is the subject of the present chapter, is an ethnolect spoken by many—though not all—Mapuches in Chile and Argentina, as well as by some non-Mapuches who grew up in areas where it is widely used. Its origins lie in Mapuche Contact Spanish, but it has since become a stable language variety transmitted from generation to generation by monolingual speakers. We will refer to this as "Mapuche Spanish."

Mapuche Spanish

As stated previously, little scientific attention has been paid to Mapuche Spanish. However, a small but growing body of research (Sadowsky, forthcoming; Sadowsky & Aninao, 2013, 2015; Olate et al., 2014; Rogers, 2016) indicates that its speakers, who are often many generations removed from the use of Mapudungun in their families and communities, exhibit most if not all of the features of Mapuche Contact Spanish, though not necessarily with the same frequency. Unlike ethnolects such as African-American Vernacular English, the existence of Mapuche Spanish has gone almost completely unrecognized both by those who speak it and by society at large, as well as by researchers. The reasons for this seem to be three-fold.

First, there is a strong tendency to invisibilize or erase the Mapuche people in Chile. One of the country's deep-seated beliefs is that its population is essentially European, with virtually no Mapuche contribution. Genetic research, however, has disproven this idea. Rocco et al. (2002) found that "84% of the women who gave rise to the current population of Santiago were indigenous, while the paternal component was mainly European."[11] Similarly, Eyheramendy et al. (2015) found that the proportion of the overall indigenous admixture in the Chilean population's DNA ranges from a minimum of 40.43% in Santiago and surrounding regions to a maximum of 49.48% in the southern Araucanía, Los Ríos, and Los Lagos regions. However, these studies are virtually unknown outside certain academic communities.

Consequently, any physical features that might make Mapuches identifiable as a group (or a speech community) either tend to go unnoticed or be classified as Hispano-Chilean, due to their high frequency in the general population. The erasure of the Mapuches has been further exacerbated by a series of other factors, including the Chilean state's systematic efforts to construct a culturally homogeneous society (Imilan, 2009, p. 5) and the imposition (by religious congregations and government officials) or adoption (under assimilatory pressure) of Spanish surnames by Mapuches.

A second factor in the failure to identify Mapuche Spanish as an ethnolect is the correlation between indigenous ancestry and poverty in Chile. Cruz-Coke and Moreno (1994), for example, found the proportion of indigenous DNA admixture in the population of Santiago to be 9% in the upper class, 30% in the middle class, and 59% in the lower class. Likewise, Santiago's Mapuche population is concentrated in some of its poorest municipalities (Sepúlveda & Zúñiga, 2015). As a result, any features of Mapuche Spanish that become perceptually salient are attributed to speakers' social class rather than their (erased) ethnicity. At the same time, the overrepresentation of Mapuches in Santiago's lower classes has likely led to the adoption of features of Mapuche Spanish by non-Mapuche members of the same social classes, further confounding the recognition of ethnicity-based language traits.

A third factor that has impeded the recognition of Mapuche Spanish as such is intense linguistic prescriptivism. This ideology has led Mapuche and non-Mapuche speakers alike to view it as "bad Spanish," precluding any interpretation of it as a language variety. At the same time, prescriptivism has discouraged the academic study of non-prestige varieties in general, leading to widespread ignorance of the language varieties spoken by a significant proportion of the population, including ethnic minorities.

Mapuche Spanish is characterized by a host of grammatical features such as number non-concordance between subject and verb (*me llama mis amigos*; *el vecino me llamaron*) as well as between determiner and noun phrase (*las mujer*; *este hombres*); gender non-concordance (*a mi hermana lo vieron*); clitic deletion (*¿el taller? el profesor [lo] va a dar los sábados*); the omission of certain prepositions (*hay cosas que [a] uno le pasan*; *[en] cierto momento uno quiere compañía*); the use of the indicative for the subjunctive (*él quiere que yo lo hago*), as well as the inverse (*la leña la dejen ahí*); and a reduced or non-existent distinction between present and past tenses (*Cuando chico vendían papas en la plaza, y la gente las compra al tiro*). All of these phenomena can be traced to grammatical features of Mapudungun (see Malvestitti, 1993).

Mapuche Spanish also has a series of notable phonological features, including the lenition of voiceless stops (/p/→[ɸ], /t̪/→[θ], /k/→[x]); the voicing of voiceless stops (/p/→[b], /t̪/→[d̪], /k/→[g]); the combined lenition and voicing of voiceless stops (/p/→[β v], /t̪/→[ð], /k/→[ɣ]); and the devoicing of voiced stops and their continuant allophones (/b/ ([b β v])→[pɸf],[12] /d̪/ ([d̪ð])→[t̪θ], /g/ ([g ɣ ɟ j])→[k x ç]).[13] The loss of the voiced–voiceless distinction is likely a direct transfer from Mapudungun, as voicing is non-phonemic in this language. The same explanation accounts for the loss of the distinction between stops and fricatives in labials and velars in Mapuche Spanish. In the case of dentals, innovation via analogy is the likely explanation, as all geolects of Mapudungun have at least one dental/alveolar phonemic opposition between stops and fricatives (/t/-/s/), while some have two (/t/-/s/, /t̪/-/θ/).

An analysis of lenition and voicing of voiceless stops

The study presented in this chapter focuses on two of the phonological phenomena mentioned previously, the lenition and/or voicing of /p/, in the Spanish of two groups of monolingual Mapuches. In general, the Spanish phoneme /p/ is reported to have a small number of allo-

phones occurring in a predictable fashion. Quilis (1993, p. 196) states that in syllable onset, /p/ has a single allophone, [p], though at least some cases of voicing (/p/→[b]) have been reported in various locations, ranging from Andalusia (Salvador, 1968) and Madrid (Quilis, 1965) to Yucatan (Vaquero, 1998) and Valdivia (Chile) (Poblete, 1992). In intervocalic position, voicing (/p/→[b]) has been reported to occur at least sporadically in Andalusia (Quilis, 1993), the Canary Islands (Marrero, 1988), Cuba (Guitart, 1978; Quilis, 1993), Madrid (Quilis, 1993), and Majorca (Hualde, Simonet, & Nadeu 2011). In coda position, where /p/ barely occurs, Quilis states that the phonemic distinction between it and /b/ is neutralized (at least in Spain), making [b] and [β] de facto allophones of /p/ (/ˈap.t̪o/→[ˈap̚.t̪o]~[ˈab̚.t̪o] and potentially [ˈaβ.t̪o]) (1993, pp. 204–205).

In summary, the literature on /p/ reports only sporadic voicing, no simultaneous voicing and lenition except possibly in coda in certain localities, and no cases of lenition without voicing. Thus, [p] and [p̚] are the expected allophones of /p/ in Spanish in virtually all cases.

In Mapuche Spanish, as will be seen below, /p/ manifests all of the previously-mentioned processes. Furthermore, it does so in *all* phonological environments and with extraordinarily high frequency in several of them. Finally, it has a series of additional allophones for which we have found no attestation in the literature.

Method and materials

Speaker sample

Two quota-based speaker samples were used, one made up of non-migrant Mapuches and the other of descendants of Mapuche migrants to Santiago. The former ("Araucanía") comprised 20 lifelong residents of rural communities in Chile's southern Araucanía region, which is the heart of traditional Mapuche territory. The latter ("Santiago") was made up of 20 lifelong residents of Santiago's Cerro Navia municipality, a long-standing destination of Mapuche migration. All speakers were Spanish-monolingual young adults (16–20 years of age; mean = 17.1) and belonged to the D or E socioeconomic levels of the EMIS stratification system (Sadowsky, 2012).[14] Seven of the speakers from the Araucanía region had at least one Mapudungun-speaking parent, while in Santiago only one did.

The question of who is Mapuche is highly fraught and has no single definitive—or even widely accepted—answer. In the present study, we observed two criteria: first, that speakers have at least one parent with a Mapuche paternal or maternal surname; and second, that speakers self-identify as Mapuche. Fifteen of the Santiago speakers were able to identify at least one parent or grandparent who had migrated from Araucanía; two had parents who migrated from other southern regions with a traditionally large Mapuche presence (Bío-Bío and Los Lagos); and three had forebears from localities in the south that they could not identify. As the features reported for Mapuche Contact Spanish show virtually no geographic variation, we do not consider these last three cases to be problematic.

Elicitation and recording

Speech samples were elicited by means of unstructured conversational interviews with the second author, who is herself Mapuche. As the goal was to obtain the most natural speech possible, the traditional question-and-answer format was eschewed for free-flowing talk focused on speakers' own interests and ideas. High-quality audio recordings were made with an Audix HT5 head-worn small condenser microphone and a Fostex FR-2LE digital recorder at 48kHz and 24bits.

Corpus and data analysis

Recordings were segmented and transcribed using Praat (Boersma & Weenink, 2017). Instances of word-internal /p/ in four phonological environments (C_C, C_V, V_C, and V_V)[15] were then identified, and the allophone produced in each case was determined using spectrographic, waveform, and perceptual auditory analysis. This information, along with the word and phonological environment in which each token of /p/ occurred, was coded in Praat text grids, extracted with MaSCoT-R (Sadowsky, 2017), and post-processed with a custom script written in R (R Core Team, 2017) using the plyr (Wickham, 2011) and reshape (Wickham, 2007) packages. Graphics were generated in R using ggplot2 (Wickham, 2009). Table 9.2 details the number and distribution of tokens analyzed.

A mixed-effects linear regression analysis of the use of canonical allophones was performed using the Shiny version of *Rbrul* (Johnson, 2009, 2017). Allophones were classified as canonical ([p], [pˀ], [pʰ])[16] or non-canonical ([ɸ], [p͡ɸ], [β], [b͡β], [b], Ø, *other*), with canonicity as the dependent variable, *non-canonical* as the application value, the word containing each token as a random effect, left and right phonological environments as internal independent variables, and speaker region, gender, and number of Mapudungun-speaking parents as external independent variables. Full details of the model are provided in Table 9.3.

Results

Speakers produced nine allophones with regularity (see Table A9.1 in the Appendix). In addition to [p] and its unreleased variant [pˀ], which are canonical in Spanish, plus [pʰ], they presented all the allophones reported for /p/ in Mapuche Contact Spanish ([b], [ɸ], and [β]), plus three that have not been previously reported for it or for Spanish in general to the best of our knowledge: [p͡ɸ], [b͡β], and Ø. Additionally, speakers produced a variety of miscellaneous phones in a sporadic and unsystematic fashion (1.42% of all tokens, jointly categorized as Other).

Figure 9.1 shows that in C_C, the most common allophone in all four speaker groups is [p], with greater frequency in speakers from Araucanía (mean = 72.6%) than Santiago (mean = 56.6%). Araucanía males (AM) differ notably from the other three groups in that they largely avoid voiced allophones: just 3.0%, compared to 23.7% in Santiago males (SM), 21.0% in Araucanía females (AF), and 31.9% in Santiago females (SF).

Figure 9.2 shows that /p/ is also the most common allophone in C_V in all groups. Speakers from Araucanía produce [p] with virtually identical frequency (AF = 75.9%, AM = 74.6%), and

Table 9.2 Number of tokens of /p/ analyzed by phonological environment, region, and gender

	Araucanía		*Santiago*		
Environment	*F*	*M*	*F*	*M*	*TOTAL*
C_C	238	205	219	199	861
C_V	199	209	225	168	801
V_C	45	47	84	53	229
V_V	261	211	250	202	924
TOTAL	**743**	**672**	**778**	**622**	**2,815**

Table 9.3 Results of mixed-effects linear regression analysis of the use of non-canonical /p/ allophones

Total *n*	2,815
df	7
Deviance	3,124.99
Intercept	0.297
Speakers	40
Mean *n* per speaker	70.4
Random effect	word
Unique words	673

	Factor	Log odds	Response proportion	*n*
Left environment				
*p < 0.0001*****	V	1.22	0.785	1,153
	C	–1.22	0.297	1,662
Region				
*p < 0.0001*****	Santiago	0.241	0.551	1,400
	Araucanía	–0.241	0.443	1,415
Gender				
*p = 0.006***	Male	0.125	0.512	1,294
	Female	–0.125	0.484	1,521
Right environment				
*p = 0.014**	C	0.167	0.439	1,090
	V	–0.167	0.533	1,725
No. Mapudungun-speaking parents				
p = 0.062	N/A			

SFs show a similar tendency (68.9%). SMs, on the other hand, use [p] at a far lower rate (54.2%). They also have the highest occurrence of [β] (12.5%), which is over 50% greater than in SFs (8.0%) and more than 3.5 times higher than the average of Araucanía speakers (3.5%). Males from both regions have a moderate tendency to produce the aspirated allophone [pʰ] (AM = 9.6%, SM = 10.1%), while females avoid it almost completely (AF = 2.0%, SF = 1.3%). AMs again produce very few voiced allophones (6.4%), unlike other groups (AF = 21%, SM = 23.7%, SF = 31.9%).

In Figure 9.3, which shows the results in V_C, an entirely different pattern emerges: the predominant allophone in all groups is the voiced fricative [β], the product of combined voicing and lenition. It is most common in males of both regions (AM = 68.1%, SM = 69.8%) and somewhat less so in females (AF = 51.1%, SF = 61.9%). The canonical [p] is quite uncommon (AF = 17.8%, SF = 16.7%, AM = 17.0%, SM = 9.4%). Leaving aside [β], AMs again produce fewer voiced allophones (2.1%) than any other group (AF = 8.9%, SM = 5.7%, SF = 4.8%).

Figure 9.4, which shows the allophones of /p/ used in V_V, reveals a pattern very similar to that of V_C. In both, [β] is the most common allophone in all groups and is more frequent in males than females, though in V_V the difference between genders is greater (AM = 72.5%, SM = 78.2% vs. AF = 47.5%, SF = 51.2%). The canonical [p], the second most common allophone in all groups except SM (where it occupies third place), is also infrequent here, being somewhat less uncommon in females (AF = 31.0%, SF = 31.2%) and moderately less so in males (AM = 11.8%, SM = 8.4%). Excepting [β], AMs again use fewer voiced allophones (2.8%) than all other groups (AF = 11.9%, SM = 9.4%, SF = 11.2%).

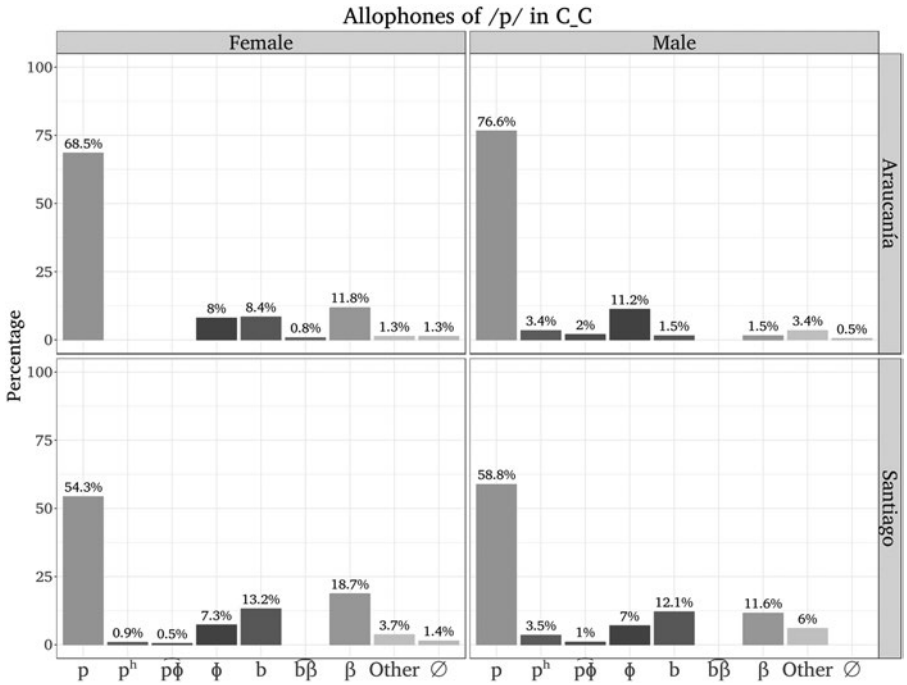

Figure 9.1 Frequency of /p/ allophones in C_C.

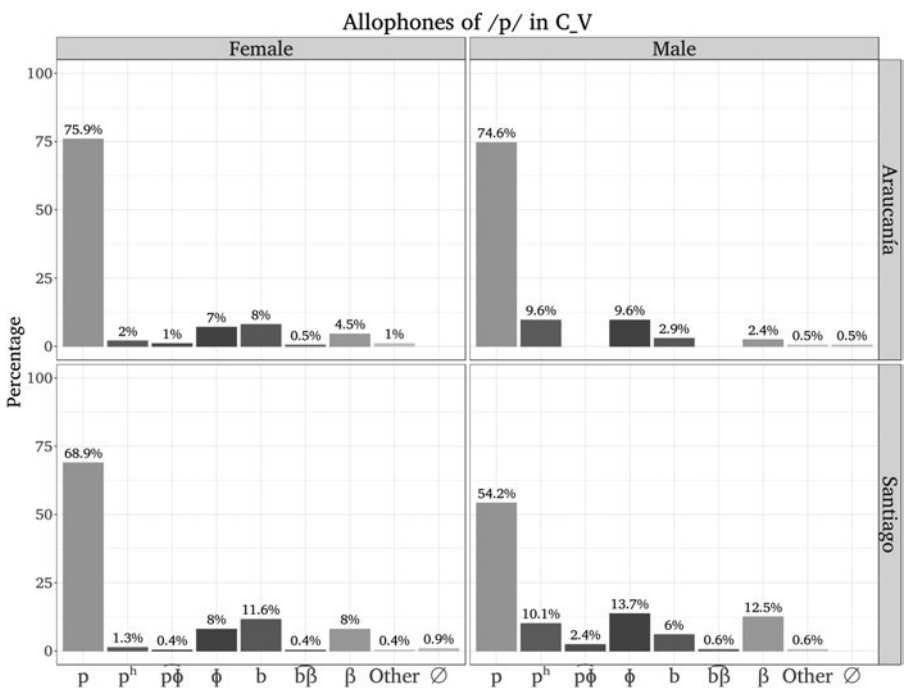

Figure 9.2 Frequency of /p/ allophones in C_V.

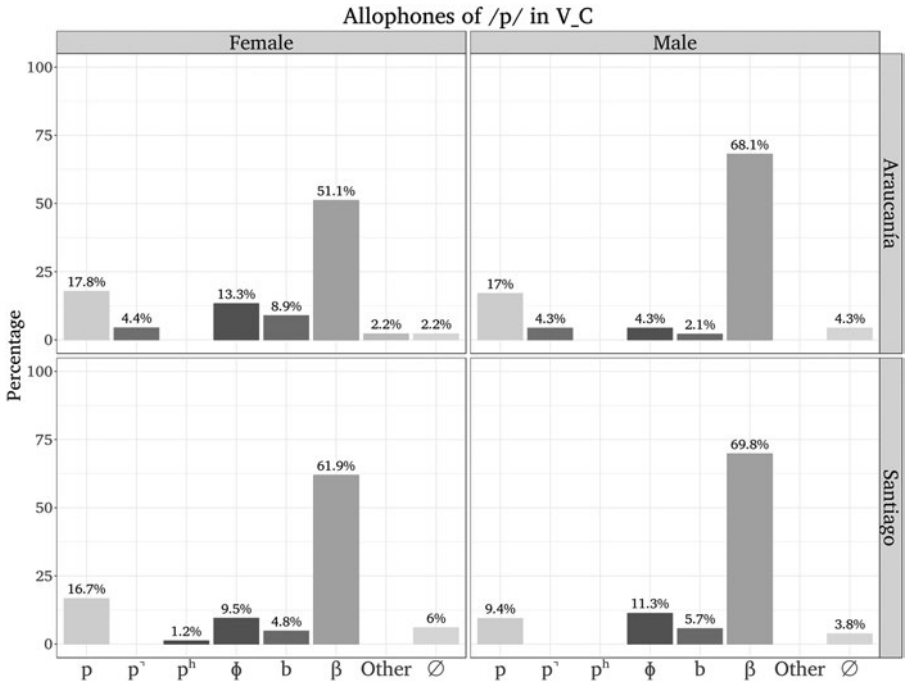

Figure 9.3 Frequency of /p/ allophones in V_C.

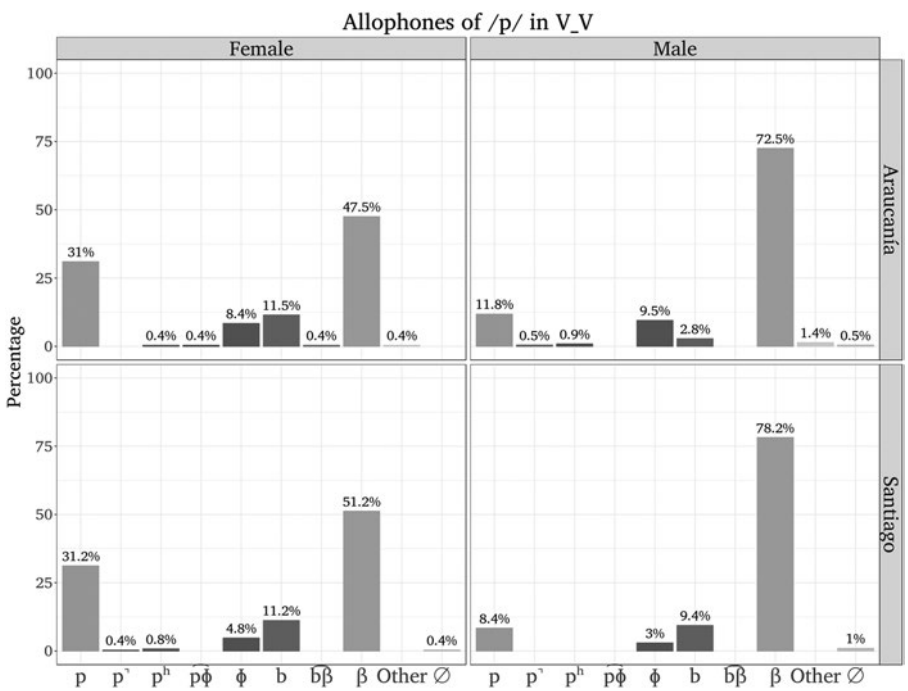

Figure 9.4 Frequency of /p/ allophones in V_V.

These results indicate that the left environment is the decisive phonological factor in speakers' selection of /p/ allophones: a preceding consonant favors the use of [p], while a preceding vowel favors [β].

Figure 9.5 shows the total frequency of /p/ allophones in all environments combined. As the speech samples used in this study come from naturalistic interviews, these frequencies can be considered indicative of the overall prevalence of each allophone in actual language use, which may serve to quantify the intensity (and potential salience) of the indexical meanings communicated by them.

As we have seen, the allophones of /p/ employed in Mapuche Spanish are strikingly different from those that have been reported for other varieties of Spanish. When examined in terms of canonicity, the data shows that in all four groups the canonical allophones account at most for slightly over half of all realizations and typically far fewer, while the literature predicts a frequency near 100%.

Non-canonical allophones represent 49.7% of the 2,815 tokens analyzed. They occur with moderate to high frequency even in the environments that least favor them (C_C: 20.0 to 44.8%; C_V: 15.8 to 35.7%), and they predominate in the other environments (V_C: 77.8 to 90.6%; V_V: 68.6 to 91.6%), as can be seen in Figure 9.6. Raw frequency data is found in Table A9.2 in the Appendix.

The linear regression analysis indicates a statistically significant effect on the use of non-canonical allophones for left environment, region, gender, and right phonological environment (see Table 9.3). The effect of the number of Mapudungun-speaking parents was not statistically

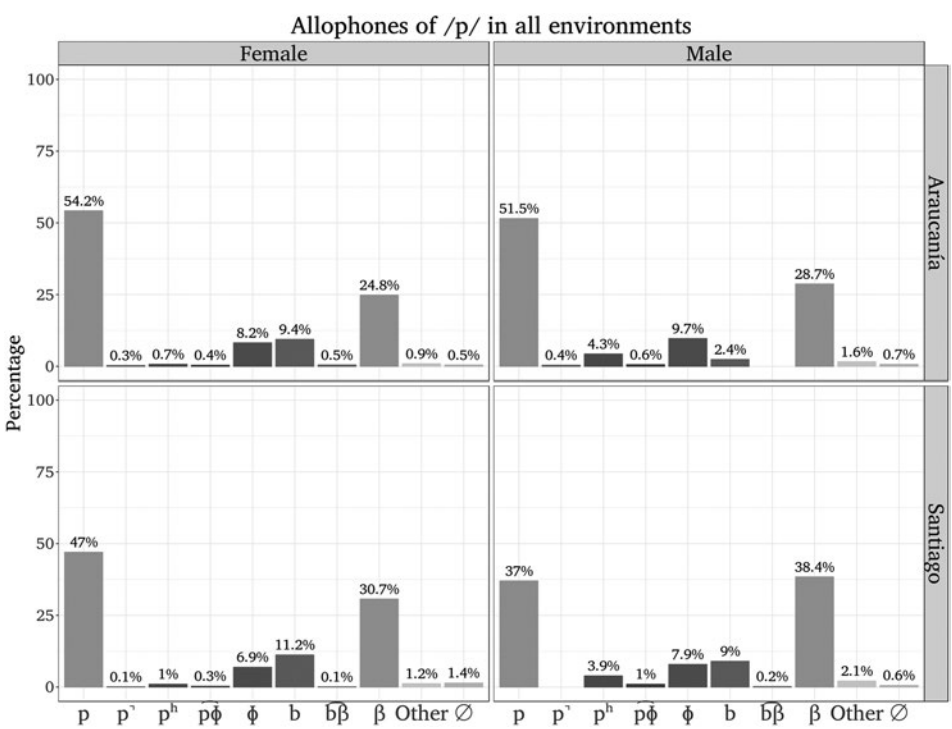

Figure 9.5 Overall frequency of /p/ allophones in all environments.

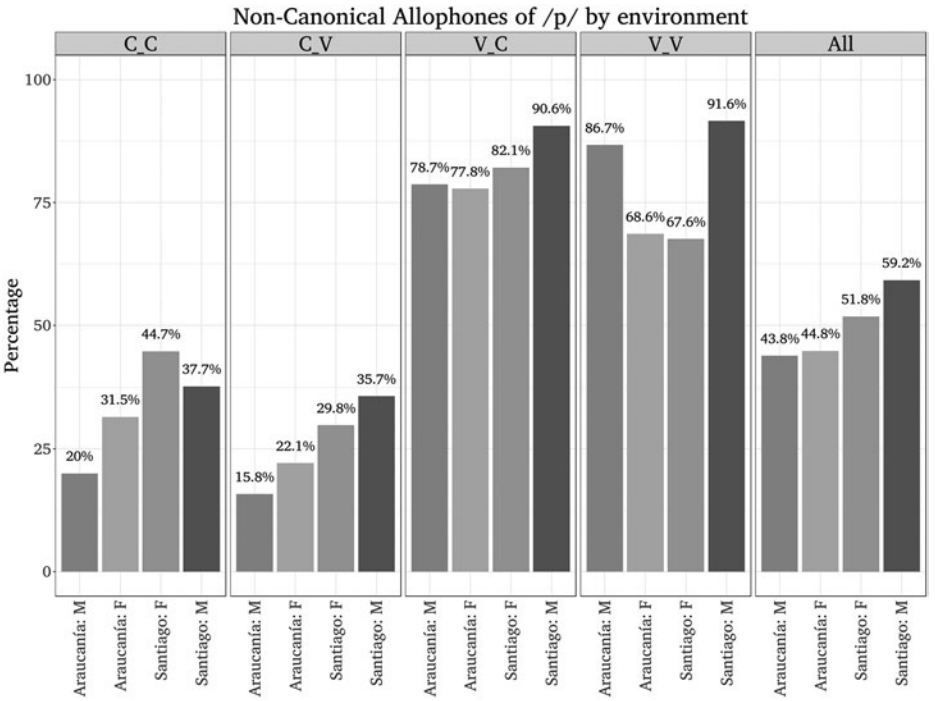

Figure 9.6 Frequency of non-canonical allophones of /p/ by phonological environment.

significant. The use of non-canonical allophones is favored, in decreasing order, by a preceding vowel, the Santiago region, a following consonant, and male gender, as shown by the log odds in the same table.

Discussion

In terms of social variables, the frequency of non-canonical allophones used by the four groups varies to some degree. Male speakers from Santiago use the largest proportion of non-canonical allophones overall (59.2%), followed by females from Santiago (51.8%), females from Araucanía (44.8%), and males from Araucanía (43.8%). All of these numbers are extraordinarily high, given that the literature predicts a frequency close to zero. The impact of this phenomenon goes far beyond the merely phonetic. The fact that [ɸ] is an allophone of both /p/ and /f/ in these speakers, and that [b], [β], and [b͡β] are allophones of both /p/ and /b/,[17] suggests that the Mapuche Spanish phonological system has merged these three phonemes into one, a [+labial] [+obstruent]. This structural change mirrors the Mapudungun phonological system and is unattested in other varieties of Spanish. Both of the above findings argue powerfully in favor of the idea that these phenomena were transferred from Mapudungun to Spanish, rather than the opposite, and all but rule out any Spanish-internal explanation.

It is clear that even after several generations in Santiago, urban Mapuche Spanish continues to constitute a distinct language variety (as does its rural counterpart). The social and geographic

segregation to which many Mapuches in Santiago have been subjected has undoubtedly played an important role by largely preventing their dispersion and subsequent assimilation. But there are more forces at work in this process than are apparent at first glance. As the speakers from the Araucanía region continue to live in a predominantly Mapuche context, without exposure to the migration-related phenomena experienced by the Santiago speakers' ancestors nor to the assimilatory pressures to which minority groups in the nation's capital are subjected, it is reasonable to conclude that their speech represents the baseline for Mapuche Spanish and that differences between the Araucanía and Santiago varieties are the result of innovations by Santiago speakers. This idea is further supported by the fact that Araucanía males produce the fewest voiced allophones of any group, which suggests a linguistic conservatism, as the variety of Mapudungun from their specific place of origin lacks these phones (Salamanca, Aguilar, Barrientos, & Alvear, 2009).

Following this logic, Santiago Mapuche speakers have actually increased their use of non-canonical allophones of /p/ in all phonological environments. This difference is greatest in the C_C (+58.0% compared to Araucanía speakers) and C_V (+71.3%) environments, which have a low incidence of non-canonical allophones (33.6% and 25.5% overall, respectively), and is more modest in V_C (+9.1%) and V_V (+2.1%), which already have an extremely high incidence of the same allophones (82.5% and 77.5% overall, respectively). Viewed in isolation, these geographical differences in /p/ allophony, which further distance the speech of Santiago Mapuches from their non-Mapuche counterparts, might be interpreted as a sociolinguistic indicator whose use has grown vis-à-vis the Araucanía baseline in order to maintain ethnic identity and express intragroup solidarity in the midst of a less-than-hospitable Hispano-Chilean majority. But while this may well have been the case in previous generations and may likewise account for an initial historical jump in non-canonical /p/ allophone frequency, any explanation appealing to ethnicity is highly problematic when applied to the current generation of young Santiago Mapuches.

The vast majority of Santiago speakers we spoke with during fieldwork, including those who were not included in the speaker sample, have little consciousness of their Mapuche background. Furthermore, even those who do have consciousness often downplay or openly deny it at first—in many cases, despite having both paternal and maternal Mapuche surnames, as well as receiving special scholarships for Mapuche students. The following comment is representative: "I may have a Mapuche last name, but that doesn't mean I'm a Mapuche. As far as I know, my family has always lived in Santiago." The predominant view in this group is the one propagated by the dominant culture, i.e. that the Mapuches were a rural indigenous group who lived in the South of Chile at some point in the past but have essentially ceased to exist as a people and certainly would not be found in an urban context. Thus, ethnic identity or solidarity seems exceedingly unlikely to play any part in the linguistic behavior of this generation.

At the same time, there is a second trend in the data that must be accounted for: the fact that male speakers from Santiago use non-canonical /p/ allophones at a much higher rate than any other group (59.2% overall, compared to 51.8% for Santiago females, 44.8% for Araucanía females, and 43.8% for Araucanía males). This difference holds in all individual phonological environments except the low-salience C_C environment, where Santiago males are still the second most frequent users of non-canonical allophones. The sharply increased adoption of non-canonical allophones by male Santiago speakers suggests that covert prestige is driving this phenomenon, perhaps indexing urban "toughness" rather than Mapuche identity or group solidarity. The fact that Santiago females also show an increased level of non-canonical /p/

allophony in comparison with Araucanía speakers (16.9% more), albeit at a lower rate than their male counterparts (12.4% less), lends credence to the idea that covert prestige is involved. As lower-class urban speakers in some of Santiago's most precarious neighborhoods, projecting an image of toughness would provide benefits ranging from increased social status to physical safety, for women as well as men.

In addition, there is some evidence that the simultaneous voicing and spirantization of voiceless stops, in general, is interpreted as a sign of lower-class urban identity in Chile, regardless of ethnicity. This is most readily apparent in the form of address "loco," which has come to be used much as the American "man" and "dude," or the British and Australian "mate," in lower-class Chilean Spanish (see Würth regarding use of "loco" in lower-class neighborhoods of Buenos Aires in Chapter 5 of this volume). When used in this sense (but not necessarily as the adjective *loco*, meaning "crazy"), /ˈlo.ko/ is almost invariably pronounced as [ˈlo.ɣo]. As this phenomenon is the result of the same two phonological processes that produce the non-canonical allophones of /p/, the social motivation for both is likely one and the same.

Thus, while the increased occurrence of non-canonical /p/ allophones in Mapuche Spanish speakers in Santiago may well have its origin in the social construction of group identity and solidarity, the present evidence suggests that covert prestige is the main force responsible for its high frequency in the contemporary urban society of Santiago.

Synthesis and conclusions

The present study demonstrates that one of the most distinctive features of the speech of Mapudungun–Spanish bilinguals—the use of a series non-canonical allophones of /p/ that result from voicing and/or lenition—is also present at a high rate in Mapuches who are monolingual in Spanish and who are several generations removed from contact with Mapudungun in the urban context of Santiago. This fact suggests that there is indeed a distinctive Mapuche variety of Spanish spoken in Chile. Produced by monolinguals who often have no exposure to Mapudungun, this language variety cannot be written off as a mere artifact of ongoing contact-related processes or of bilingualism, nor as an interlanguage or an "imperfectly acquired" variety of Chilean Spanish.

On the contrary, Mapuche Spanish is a stable variety of Spanish that has been transmitted across generations, has its own systematic phonetic, phonological, and other rules, and is as socially and linguistically legitimate as other varieties of Spanish. The Chilean educational system would do well to incorporate such knowledge into its language curriculum in order to begin to combat the linguistic discrimination that is rampant in the country, as well as the socioeconomic and ethnic discrimination for which linguistic prescriptivism is so often a socially acceptable proxy.

While migration to Santiago has led to a high degree of cultural assimilation of Mapuches, their variety of Spanish appears to have resisted this process, at least with regard to /p/ allophony (and, according to our preliminary observations, various other phonological phenomena). Indeed, the opposite has occurred: the frequency of the non-canonical allophones associated with their lect has actually increased among Santiago speakers. In light of so many young urban Mapuches' lack of identification with—or outright rejection of—a Mapuche identity, we must conclude that this is due to these allophones having been resignified as a symbol of urban toughness, as stated previously, rather than as a manifestation of ethnic identity, pride, or solidarity.

Inasmuch as Mapuche Spanish is spoken by members of a single ethnic group, it may be considered an ethnolect. However, the fact that the genetic admixture of Santiago's lower-middle and lower classes is 49% and 52% indigenous, respectively (Cifuentes et al., 2015), raises an important question: to what extent are the language varieties of *all* the members of these socioeconomic groups—Mapuche, mestizo, and Hispano-Chilean alike—actually Mapuche Spanish? In other words, to what degree was Rudolf Lenz correct when he stated that the speech of the Chilean lower classes was essentially Spanish with Mapuche sounds? Following Lenz's death in 1938, the Hispanic language establishment declared its anti-indigenous position victorious, and research on this matter came to an abrupt halt. Given the results of the present study, we believe that this question needs to be thoroughly reexamined.

At the same time, the findings presented here raise a further question in light of the fact that 84% of the women who gave rise to the current population of Santiago were indigenous (Rocco et al., 2002) and that even the country's upper class has a very high (39%) indigenous admixture (Cifuentes et al., 2015): is the influence of Mapudungun on Chilean Spanish necessarily limited to the lower classes? We believe that this, too, will prove to be a fruitful line of future inquiry.

There is no question that Santiago participates extensively in the "intensified flows of capital, goods, people, images and discourses" that Blommaert cites as hallmarks of the "old process" of "slow and deep" geopolitical globalization (2010, p. 13). What is not apparent, however, are significant new patterns of global activity, community organization, and culture (Appadurai, 1996), with the notable exception of the internet. The globalization-related changes that Santiago, as well as Chile as a whole, have experienced during the last century are essentially quantitative expansions of longstanding processes, rather than qualitatively different phenomena related to globalization. While vastly more global media are consumed now compared to a century ago, for example, the replacement of Argentinean tangos and Mexican rancheras on acetate discs by digital streams of international rock, pop, and reggaetón can hardly be considered revolutionary. Likewise, although Latin American immigrants have largely supplanted European ones, the percentage of Chile's population that is foreign-born is only now approaching the level it reached at the beginning of the 20th century, and the country's economy continues to be based on the export of raw materials and the import of finished goods, with only the specific products involved changing.

Geocultural globalization is similarly limited. The "super-diversity in metropolitan areas" that characterizes this phenomenon (Blommaert, 2010, pp. 13–14) is far from being a reality, and the accumulation of capital and increasing inequality in Chile have their origins primarily in local actors rather than global ones.

That is not to say that the quantitative changes in globalization in Chile have had no effect on the language—in fact, they are likely behind several sociolinguistic phenomena, as well as the increased adoption of Anglicisms. But the main drivers of language use and change in Chile are decidedly non-global: local social dynamics and internal migration.

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Notes

1 As it is a social construct with no basis in language-internal factors and furthermore reflects little more than the power dynamics of a given society, we reject the concept of "standard" language, usage, and variants of linguistic phenomena. We use the terms "canonical" and "canonicity" in an attempt to take into account the existence of socially dominant value judgements about language without legitimizing the prejudices they are based on nor the hegemony they seek to impose.

2 Technically speaking, Chile's capital city does not exist as a political or administrative entity—it corresponds neither to the Municipality of Santiago (which has a mere 404,000 inhabitants), nor to the Province of Santiago (which excludes at least five municipalities which are universally considered part of the city). The entity which most closely matches the common understanding of the capital, and which the statistics presented here are based on, is "Greater Santiago," a set of 37 municipalities used for planning and some other purposes by certain government bodies.

3 This phone, which is characterized by a prolonged stop and brief frication, is known in Spanish as an *africado oclusivizante* (see Sadowsky & Salamanca [2011]). It is distinct from the dorso-alveolar affricate [t͡s], which in certain positions is an allophone of /s/.

4 The latter phone has a significantly greater degree of frication than the former.

5 We follow Sadowsky & Salamanca (2011) in classifying /t͡ɾ/ as a phoneme in Chilean Spanish.

6 Chilean Spanish distinguishes two degrees of frication in several phonemes; the allophones with stronger frication are stigmatized, while the ones with weaker frication are socially unmarked. We use the haček to represent the former and the "raised" diacritic for the latter ([ɣ̞] and [ɹ̝], respectively).

7 We use "general-purpose dictionary" to translate the Spanish term "diccionario integral." This concept will seem redundant to English-speaking readers, for whom dictionaries are general purpose by their very nature, i.e. they cover the full range of vocabulary used in a given country. However, such works are the exception in the Spanish-speaking world, where often amateurish dictionaries of "isms" (Chileanisms, Colombianisms, etc.) predominate.

8 See Sadowsky (forthcoming) for a full account.

9 While some studies cite higher speaker numbers, they include so-called "passive speakers" (i.e. people who do not speak the language but claim to understand it to some degree) and/or "basic speakers" (i.e. those who know certain words or phrases but cannot communicate in the language). We consider such criteria to be deceptive and thus use the same standard as is routinely applied to other languages: the ability to actively speak and understand the language, which is what Zúñiga's "active speaker" and INDE's "speak and understand" categories represent.

10 In studies of Spanish, it is often termed *castellano mapuchizado*, "Mapuchified Spanish," a term we reject, as it implies that the Mapuches have somehow improperly altered a language that is not truly theirs. Furthermore, this term is often applied indistinctly to the speech of bilingual and Spanish-monolingual Mapuches, thereby confounding the two varieties.

11 Translation ours.

12 Two of the main allophones of /b/ in Chilean Spanish are the voiced labiodental fricative [v] and approximant [ʋ], hence the presence of the voiceless labiodental fricative [f] as a lenited and devoiced allophone of /b/ in Mapuche Spanish.

13 Note that while voicing is normally considered a subtype of lenition (see Trask, 1996, for example), we have opted to treat it separately from the other subtype, reduced strength of articulation, as the two processes seem to operate independently in Mapuche Spanish. At the same time, the articulatory weakening processes in Mapuche Spanish stops go beyond mere spirantization—they also include affrication and elision. We use the term "lenition" to refer jointly to these processes.

14 EMIS is a version of the ESOMAR stratification system adapted for use in sociolinguistic research. The stratification levels, from highest to lowest, are A, B, Ca, Cb, D, and E.

15 The approximants [j] and [w], which are allophones of /i/ and /u/, respectively, were treated as consonants.

16 [pʰ] was classified as canonical as it appeared only infrequently and in emphatic speech.

17 This allophone of /b/ is detailed in Sadowsky & Salamanca (2011), where it is represented as [b͡v].

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Appendix

Table A9.1 Frequency of individual allophones of /p/ by phonological environment, region, and gender

Environment	Allophone	ARAUCANÍA						SANTIAGO						TOTAL	
		Female		Male		Combined		Female		Male		Combined			
		n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
ALL	p	403	54.24	346	51.49	749	52.93	366	47.04	230	36.98	596	42.57	1345	47.78
	pʾ	2	0.27	3	0.45	5	0.35	1	0.13	0	0.00	1	0.07	6	0.21
	pʰ	5	0.67	29	4.32	34	2.40	8	1.03	24	3.86	32	2.29	66	2.34
	p͡ɸ	3	0.40	4	0.60	7	0.49	2	0.26	6	0.96	8	0.57	15	0.53
	ɸ	61	8.21	65	9.67	126	8.90	54	6.94	49	7.88	103	7.36	229	8.13
	b	70	9.42	16	2.38	86	6.08	87	11.18	56	9.00	143	10.21	229	8.13
	b͡β	4	0.54	0	0.00	4	0.28	1	0.13	1	0.16	2	0.14	6	0.21
	β	184	24.76	193	28.72	377	26.64	239	30.72	239	38.42	478	34.14	855	30.37
	Other	7	0.94	11	1.64	18	1.27	9	1.16	13	2.09	22	1.57	40	1.42
	Ø	4	0.54	5	0.74	9	0.64	11	1.41	4	0.64	15	1.07	24	0.85
	TOTAL	**743**		**672**		**1,415**		**778**		**622**		**1,400**		**2,815**	
C_C	p	163	68.49	157	76.59	320	72.23	119	54.34	117	58.79	236	56.46	556	64.58
	pʾ	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	pʰ	0	0.00	7	3.41	7	1.58	2	0.91	7	3.52	9	2.15	16	1.86
	p͡ɸ	0	0.00	4	1.95	4	0.90	1	0.46	2	1.01	3	0.72	7	0.81
	ɸ	19	7.98	23	11.22	42	9.48	16	7.31	14	7.04	30	7.18	72	8.36
	b	20	8.40	3	1.46	23	5.19	29	13.24	24	12.06	53	12.68	76	8.83
	b͡β	2	0.84	0	0.00	2	0.45	0	0.00	0	0.00	0	0.00	2	0.23

Environment	Allophone	ARAUCANÍA						SANTIAGO						TOTAL	
		Female		Male		Combined		Female		Male		Combined			
		n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
	β	28	11.76	3	1.46	31	7.00	41	18.72	23	11.56	64	15.31	95	11.03
	Other	3	1.26	7	3.41	10	2.26	8	3.65	12	6.03	20	4.78	30	3.48
	Ø	3	1.26	1	0.49	4	0.90	3	1.37	0	0.00	3	0.72	7	0.81
	TOTAL	**238**		**205**		**443**		**219**		**199**		**418**		**861**	
C_V	p	151	75.88	156	74.64	307	75.25	155	68.89	91	54.17	246	62.60	553	69.04
	p'	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	p^h	4	2.01	20	9.57	24	5.88	3	1.33	17	10.12	20	5.09	44	5.49
	p͡ɸ	2	1.01	0	0.00	2	0.49	1	0.44	4	2.38	5	1.27	7	0.87
	ɸ	14	7.04	20	9.57	34	8.33	18	8.00	23	13.69	41	10.43	75	9.36
	b	16	8.04	6	2.87	22	5.39	26	11.56	10	5.95	36	9.16	58	7.24
	b͡β	1	0.50	0	0.00	1	0.25	1	0.44	1	0.60	2	0.51	3	0.37
	β	9	4.52	5	2.39	14	3.43	18	8.00	21	12.50	39	9.92	53	6.62
	Other	2	1.01	1	0.48	3	0.74	1	0.44	1	0.60	2	0.51	5	0.62
	Ø	0	0.00	1	0.48	1	0.25	2	0.89	0	0.00	2	0.51	3	0.37
	TOTAL	**199**		**209**		**408**		**225**		**168**		**393**		**801**	
V_C	p	8	17.78	8	17.02	16	17.39	14	16.67	5	9.43	19	13.87	35	15.28
	p'	2	4.44	2	4.26	4	4.35	0	0.00	0	0.00	0	0.00	4	1.75
	p^h	0	0.00	0	0.00	0	0.00	1	1.19	0	0.00	1	0.73	1	0.44
	p͡ɸ	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	ɸ	6	13.33	2	4.26	8	8.70	8	9.52	6	11.32	14	10.22	22	9.61
	b	4	8.89	1	2.13	5	5.43	4	4.76	3	5.66	7	5.11	12	5.24

(*Continued*)

Table A9.1 (Continued)

Environment	Allophone	ARAUCANÍA						SANTIAGO						TOTAL	
		Female		Male		Combined		Female		Male		Combined			
		n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
	b͡β	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
	β	23	51.11	32	68.09	55	59.78	52	61.90	37	69.81	89	64.96	144	62.88
	Other	1	2.22	0	0.00	1	1.09	0	0.00	0	0.00	0	0.00	1	0.44
	Ø	1	2.22	2	4.26	3	3.26	5	5.95	2	3.77	7	5.11	10	4.37
	TOTAL	**45**		**47**		**92**		**84**		**53**		**137**		**229**	
V_V	p	81	31.03	25	11.85	106	22.46	78	31.20	17	8.42	95	21.02	201	21.75
	pʔ	0	0.00	1	0.47	1	0.21	1	0.40	0	0.00	1	0.22	2	0.22
	pʰ	1	0.38	2	0.95	3	0.64	2	0.80	0	0.00	2	0.44	5	0.54
	p͡ɸ	1	0.38	0	0.00	1	0.21	0	0.00	0	0.00	0	0.00	1	0.11
	ɸ	22	8.43	20	9.48	42	8.90	12	4.80	6	2.97	18	3.98	60	6.49
	b	30	11.49	6	2.84	36	7.63	28	11.20	19	9.41	47	10.40	83	8.98
	b͡β	1	0.38	0	0.00	1	0.21	0	0.00	0	0.00	0	0.00	1	0.11
	β	124	47.51	153	72.51	277	58.69	128	51.20	158	78.22	286	63.27	563	60.93
	Other	1	0.38	3	1.42	4	0.85	0	0.00	0	0.00	0	0.00	4	0.43
	Ø	0	0.00	1	0.47	1	0.21	1	0.40	2	0.99	3	0.66	4	0.43
	TOTAL	**261**		**211**		**472**		**250**		**202**		**452**		**924**	

Table A9.2 Frequencies of canonical vs. non-canonical allophones of /p/ by phonological environment, region, and gender

Environment	Allophone	ARAUCANÍA						SANTIAGO						TOTAL	
		Female		Male		Combined		Female		Male		Combined			
		n	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%	*n*	%
ALL	Canonical	410	55.18	378	56.25	788	55.69	375	48.20	254	40.84	629	44.93	1,417	50.34
	Non-canonical	333	44.82	294	43.75	627	44.31	403	51.80	368	59.16	771	55.07	1,398	49.66
	TOTAL	**743**		**672**		**1,415**		**778**		**622**		**1,400**		**2,815**	
C_C	Canonical	163	68.49	164	80.00	327	73.81	121	55.25	124	62.31	245	58.61	572	66.43
	Non-canonical	75	31.51	41	20.00	116	26.19	98	44.75	75	37.69	173	41.39	289	33.57
	TOTAL	**238**		**205**		**443**		**219**		**199**		**418**		**861**	
C_V	Canonical	155	77.89	176	84.21	331	81.13	158	70.22	108	64.29	266	67.68	597	74.53
	Non-canonical	44	22.11	33	15.79	77	18.87	67	29.78	60	35.71	127	32.32	204	25.47
	TOTAL	**199**		**209**		**408**		**225**		**168**		**393**		**801**	
V_C	Canonical	10	22.22	10	21.28	20	21.74	15	17.86	5	9.43	20	14.60	40	17.47
	Non-canonical	35	77.78	37	78.72	72	78.26	69	82.14	48	90.57	117	85.40	189	82.53
	TOTAL	**45**		**47**		**92**		**84**		**53**		**137**		**229**	
V_V	Canonical	82	31.42	28	13.27	110	23.31	81	32.40	17	8.42	98	21.68	208	22.51
	Non-canonical	179	68.58	183	86.73	362	76.69	169	67.60	185	91.58	354	78.32	716	77.49
	TOTAL	**261**		**211**		**472**		**250**		**202**		**452**		**924**	