What the Fricative?:
An analysis on the surfacing of [x-] as [f-] in Chángshāhuà

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Abstract

Chángshāhuà is a New Xiāng variety of Chinese that is spoken primarily in Chángshā, the capital of China's Húnán province. In some instances, some words that surface with a syllable-initial voiceless velar fricative [x-] in Pǔtōnghuà (also known as Standard Chinese), surface instead with a voiceless labiodental fricative [f-] in Chángshāhuà. The goal of this thesis is to predict where and why this fricative shift may occur. Using previous research regarding the same fricative shift word-finally in English and Yan's (2006) labiodentalization rule for New Xiāng varieties, I hypothesize that Pǔtōnghuà syllables that surface with a voiceless velar fricative [x-] followed by a semivowel [w] (and consequently its allophonic counterpart [u]) will surface as a voiceless labiodental fricative [f-] in Chángshāhuà. I tested this hypothesis through a series of semi-structured interviews with five native Chángshāhuà speakers in which they read a passage embedded with 59 different [x-] Pǔtōnghuà syllables, once in Chángshāhuà and once in Pǔtōnghuà. I find that though my hypothesis holds true for the majority of tested words, there are some exceptions. I propose that the glide in a word's Middle Chinese reconstruction may affect either the previous fricative (thus, leading to the fricative shift) or the following vowel (thus, rounding the vowel). The exceptions may then be accounted for by the latter occurring. In addition, I find that speakers are making three linguistic decisions between Chángshāhuà and Pǔtōnghuà at a time when they are reading the passage: which lexemes, pronunciations, and tones to use. I argue that this phenomenon is best viewed under a translanguaging framework given that the utterances cannot be clearly attributed as being of one variety or the other.

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1. Introduction

Contributing to China's sense of cultural cohesion and continuity is the linguistic unity of the Chinese script (Norman, 1988). Roughly 300 languages are spoken within China, including Pǔtōnghuà (also called Standard Chinese) and Chángshāhuà, a New Xiāng dialect ("Ethnologue"; Wu, 2023; Yan, 2006). Due to the presence of a standardized language, China may be best classified as a diglossic society where the high variety (H-variety) is Pǔtōnghuà and the low variety (L-variety) is the other regional varieties (Ferguson, 1959; Ramsey, 1987; Su, 2014). Given this, Chángshāhuà tends to be perceived as a L-variety in Chinese society – even by those who speak it (Wu, 2023). This thesis examines phonological differences between Chángshāhuà and Pǔtōnghuà.

1.1 What is a dialect?

I begin by establishing a working definition for what a dialect exactly is. Although some linguists use mutual intelligibility to separate dialects from languages (ie. the argument that dialects are mutually intelligible while languages are not), this criterion fails to account for the fact that mutual intelligibility may not be binary nor symmetrical (Boberg et al., 2018; Tang & van Heuven, 2009; Yan, 2006). Others separate dialects from languages based on social attitudes; this is seen when dominant groups claim the term 'language' for their variety and refer to other varieties as 'dialects', equating their power to linguistic superiority (Milroy, 2012; Wiley, 1995; Wiley & Lukes, 1996). Thus, varieties with greater social value may be perceived as languages while those with lesser social value may be perceived as dialects (Roy, 1987; Wiley & Lukes, 1996). Such definitions tend to reflect prescriptive claims which use "linguistic correctness" as "an indirect expression of a social prejudice," (Milroy, 2012, p. 84). Given the arbitrary nature of the linguistic sign (Saussure, 2011), Milroy (2012) notes that the notion of a superior or inferior dialect or language is unjustifiable on solely linguistic grounds. It is incorrect to assume that non-standard varieties are lesser forms of standard varieties, and in fact, "historically, standard languages have been superimposed on dialects" by dominant groups (Milroy, 2012, p. 7; Wiley & Lukes, 1996). Following Chambers & Trudgill (1998), I use 'variety' in a neutral manner to refer to any type of language and consider dialects to encompass standard varieties as well.

It is also important to acknowledge that common interpretations of what is a language and what is a dialect are subject to sociopolitical forces: Serbian and Croatian are mutually intelligible but are recognized as separate languages ever since the dissolution of Yugoslavia while Cantonese is recognized as a Chinese dialect despite low levels of mutual intelligibility with other Chinese dialects (Bailyn, 2010; Tang & van Heuven, 2009; Yan, 2006). Additionally, though 'accent' and 'dialect' may have intersecting definitions, 'accents' denote a phonetic difference between varieties while 'dialects' denote a grammatical and lexical difference between varieties (Chambers & Trudgill, 1998; Hall, 2020). In this thesis, I adopt the latter as the definition of dialect.

1.2 Terminology to be used

As this thesis focuses on Chángshāhuà, what many consider to be a dialect of Chinese, I want to make clear the distinction between the Western word 'dialect' and the Chinese word 'fāngyán'. While 'dialect' tends to be defined with some factor of mutual intelligibility, 'fāngyán' does not and may refer to both a dialect group or a specific dialect (Kurpaska, 2010). As Kurpaska (2010) notes, the use of the word 'dialect' is a matter of convention, and so, I will be using 'dialect' to describe 'fāngyán' throughout the rest of this thesis. Since the English term 'Mandarin' refers to a particular dialect group and not the standard language specifically, I will be using Standard Chinese and Pǔtōnghuà in equivalency instead (Norman, 1988).

While Chángshāhuà and Pǔtōnghuà are related varieties, neither developed from the other, and rather, they share the common ancestor of Middle Chinese. Throughout this thesis, I use the word 'shift' to describe when the syllable-initial fricative of a Middle Chinese word surfaces as a voiceless labiodental fricative [f-] in Chángshāhuà and as a voiceless velar fricative [x-] in Pǔtōnghuà. Thus, when I say a word did not shift, I mean that it surfaced as [x-], and when I say a word did shift, I mean that it surfaced as [f-].

1.3 Research question

Growing up in a Chángshāhuà and Pǔtōnghuà speaking household, I never paid much attention to the way I spoke. I only noticed when I chatted with non-Chángshā Pǔtōnghuà speakers who pointed out that I had a very strong regional accent when I spoke Pǔtōnghuà. Specifically, some of my Pǔtōnghuà words were deemed "non-Standard" as I had been shifting my syllable-initial fricatives. For example, regarding the word 'tiger', I would adopt the Chángshāhuà pronunciation of [lao˩.fu˥˩] with a Pǔtōnghuà tone (as opposed to Pǔtōnghuà pronunciation [lao˩.xu˥˩]). In this thesis, I investigate the reason for the fricative shift and what theory could possibly explain it.

My research question is thus: Why do some words that surface with a syllable-initial voiceless velar fricative [x-] in Pǔtōnghuà (also known as Standard Chinese), surface instead with a voiceless labiodental fricative [f-] in Chángshāhuà, and how may we predict where this will occur? To answer this question, I conducted a series of interviews with native Chángshāhuà speakers by having them read aloud a passage with various [x-] Pǔtōnghuà syllables of different tones in Chángshāhuà and Pǔtōnghuà. I transcribed the data with Praat and also examined the Middle Chinese reconstructions of my data set.

Having established the groundwork, a brief overview of the goals of my research and an outline of my thesis is as follows: The purpose of this section, Section 1, is to lay out the foundation for the rest of my thesis. Section 2 contextualizes the research question. Following that, Section 3 explains the methodology of my study, and Section 4 reveals my findings. Section 5 then discusses my results and proposes a theoretical explanation for the fricative shift. Lastly, Section 6 summarizes my research. Any materials used in the study are provided in the appendix within Section 7, and references are available in Section 8.

2. Background

In this section, I begin by outlining the language situation in China and the various dialect groups. Then, I provide an overview on the history of Chinese and Pǔtōnghuà and discuss Chángshāhuà and its relation to Pǔtōnghuà. Finally, I introduce previous theory proposals on the [x-] to [f-] shift in English and in Chinese.

2.1 China's… languages or dialects?

A natural follow-up question when talking about the speech varieties in China is whether they should be called languages or dialects. As Norman (1988) points out, a major contributor to the labeling of Chinese speech varieties as dialects is the uniting, interwoven culture of China. Yan (2006) recognizes that not only do Chinese dialect groups vary significantly phonologically, lexically, and syntactically from each other, but even dialects within the same dialect group vary to the point of mutual unintelligibility. Put another way, there are external motives at play: labeling the speech varieties as Chinese dialects signifies a unity of the people that languages cannot (Kurpaska, 2010).

If I go on to label these Chinese speech varieties as dialects, my next question to answer should be: How may they be classified? Chinese dialectologists have proposed many ways of grouping the various varieties, but the general consensus posits seven major dialect groups which may be categorized as being northern, central, or southern: Mandarin (Northern); Xiāng, Gàn, Wú (Central); Kèjiā (Hakka), Mǐn, and Yuè (Southern) (Ramsey, 1987; Shen, 2020; Yan, 2006). Shen (2020) argues that these dialects were formed historically via language contact as people incorporated non-Chinese features into their adoption of the Chinese language. The Mandarin dialect group (which contains the standard language, Pǔtōnghuà) is spoken by ~70% of the Han population in China and is found above the Yangtze River where Han languages are spoken (Norman, 1988). The following map from shows the dialect distribution across China:

Figure 1: Dialects in China (Yan, 2006, p. 4)

Dialects themselves also exist on a continuum, and many view the Chinese speech varieties as being part of a Chinese dialect continuum. Dialect continuums, also called dialect areas, describe gradual transitions of speech varieties across geographical regions (Bloomfield, 1923). While adjacent villages within a country may understand each other despite small differences in speech, these differences may accumulate such that the speech varieties of villages at opposite ends of a country are mutually unintelligible (Bloomfield, 1923). In China, there are strong and weak dialect boundaries (Norman, 1988). For example, a strong boundary exists between the Wú and Mǐn dialect groups as they have very different vocabularies and different retentions of Middle Chinese voiced stops (Norman, 1988). On the other hand, the Xiāng and Mandarin dialects have a weak boundary as they have many similarities due to several centuries of northern features migrating through the area (Norman, 1988).

2.2 Chinese

In this section I provide some background on Chinese and Pǔtōnghuà as a whole. Chinese is most often classified under the Sinitic branch of the Sino-Tibetan language family and is spoken by more than 20% of the global population (Kurpaska, 2010). China and its languages are split into the North and the South, with the Northern varieties, known as "Mandarin dialects", being fairly uniform and mutually intelligible with each other and the Southern varieties, known as "non-Mandarin dialects", being fairly varied and mutually unintelligible with each other (Ramsey, 1987, p. 21). The creation of a common Chinese language stems from the Western Zhōu Dynasty (1046-256 BC) and has always been derived from Northern varieties (Kurpaska, 2010). Historically, there has always been a "flow of Northern influence into the South, and the language standardization policy of the People's Republic is in some ways only the most recent surge in process," (Ramsey, 1987 p. 30). Terminology regarding the national language has also shifted over time but Pǔtōnghuà has since been designated as the official standard language of China (Norman, 1988). An important characteristic of Pǔtōnghuà is that it establishes the Běijīng pronunciation (ie. northern dialects) as the standard and is consequently part of the Mandarin dialect group (Kurpaska, 2010; Norman, 1988; Yan, 2006). Pǔtōnghuà may be written using Chinese script, Simplified and Traditional, and also has a Romanized spelling system called 'pīnyīn zìmǔ' ('pīnyīn' henceforth) (Ramsey, 1987).

There is a distinction to be made between the literary and the vernacular Chinese. Classical Chinese, also known as written Old Chinese (also called Archaic Chinese), became a purely written language over the course of time, though it was likely based on a vernacular at its time of origin during the late Zhōu and Hàn dynasties (Norman, 1988). After Old Chinese came Middle Chinese (also called Ancient Chinese), which few would consider to be a separate stage of the language (Norman, 1988). Middle Chinese has been reconstructed by historical phonologists based on the *Qièyùn*, a rime dictionary created by Lù Fǎyán in 601 AD (Norman, 1988). The *Qièyùn* is viewed not as a record of any vernacular of a place, but rather, as a guide to

a "proper recitation of literary texts" and was a compromise between northern and southern pronunciations (Norman, 1988, p. 24; Zhou, 1966).

Following Middle Chinese came Old Mandarin (the ancestor of Modern Mandarin), which has been reconstructed with the *Zhōngyuán Yīnyùn* (Shen, 2020). The *Zhōngyuán Yīnyùn* is believed to be based on a real phonological system but should also be seen as a composite representation as opposed to representing a single dialect (Shen, 2020). The transition between Middle Chinese and Old Mandarin was also a transition in standards as the different territories promoted different pronunciations (Shen, 2020). Ultimately, after the 10th century, the northern dialects became seen as the standard (Shen, 2020). Old Mandarin was followed by Modern Mandarin which established the Běijīng dialect as the national standard in 1932 with the publication of the *Guóyīn Chángyòng Zìhuì* (Shen, 2020). As the vernacular language changed faster than the written language, the written vernacular started to replace the written literary language by the 1920s (Norman, 1988). In 1955, Pǔtōnghuà was officially defined in the *Symposium on the Standardization of Modern Chinese*, and since then, various Constitutional amendments, regulations, and laws have been created to promote usage of Pǔtōnghuà (Liang, 2015). Below is a summary timeline outlining the history of Chinese phonology:

Stage	Description	Reconstruction
Old Chinese (Archaic Chinese)	Refers to the time from roughly the Qín dynasty (before 221 BC). Currently, the earliest reconstruction by researchers. Middle Chinese phonology is the main reference point for linguists studying Old Chinese.	Reconstructed based on "poetry rhyming, the phonetic information of Chinese characters, and the categorical information of *Qièyùn*," (p. 4). Comparative method used for phonological categories and phonetic value reconstruction.
Middle Chinese (Ancient Chinese)	Refers to the time from roughly the Northern and Southern dynasties to the Sòng dynasty (420-1279 AD).	Reconstructed primarily using the *Qièyùn* (601 AD) and supplemented with *Guǎngyùn* (1008) and *Qiū Yōng* (1008). Phonological categories were recorded in the *Qièyùn*, and the comparative method was used for phonetic value reconstruction.
Old Mandarin	Refers to the time from roughly the Liáo dynasty to Xīxià dynasty (916-1227 AD).	Reconstructed based on various works, including the *Ménggǔ Zìyùn* (1260s) and *Zhōngyuán Yīnyùn* (1324). Later period of Old Mandarin is based on *Ménggǔ Zìyùn* which had

		phonological categories and phonetic transcriptions.
Modern Mandarin	Refers to the time from roughly the Míng dynasty to present (1368 AD - present). The Běijīng dialect became the basis for national standard pronunciation after the Imperial Era of China (post-1911).	Information from various works, including the *Hóngwǔ Zhèngyùn* rhyme dictionary (1375) and its subsequent revisions and the *Fānyì Lǎo Qǐdà* and *Fānyì Piáo Tōngshì* (1473-1542) contain spoken transcriptions with tones. *Yùdìng Pèiwén Yùnfǔ* (1711) and *Yīnyùn Chǎnwēi* (1728) were published to establish a phonological standard. Colloquial Běijīng pronunciation is recorded in *Yǔyán zì ěr jí* (1886).

Table 1: Historical phonology timeline of Chinese, adapted from Shen (2020)

Under the traditional view of the Chinese language family, Middle Chinese is seen as the ancestor of the Mandarin, Xiāng, Gàn, Wú, Yuè, and Kèjiā (Hakka) dialect groups, and Old Chinese is seen as the ancestor of the Mǐn dialect group (Fig. 2). As I explain further in Section 2.3, Chángshāhuà is considered to be a Xiāng dialect. However, although Pǔtōnghuà and Chángshāhuà are part of different dialect groups, they have the same ancestor of Middle Chinese.
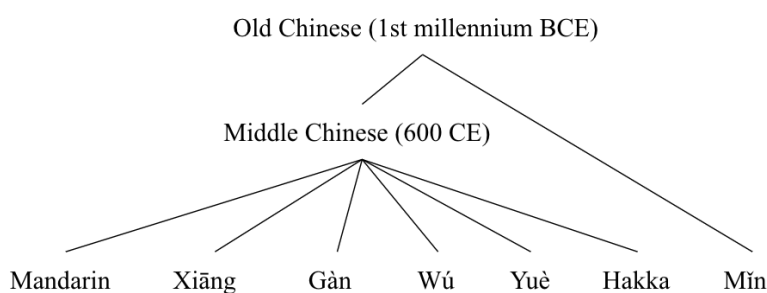
Figure 2: Traditional view of Chinese language family (Handel, 2014, p. 578)[1]

Given that the Chinese writing system is logographic, dialectal variation and phonetic information cannot be determined from such a system (Shen, 2020). Shen (2020) points out that "dialects were never the main interest of scholars before the modern era" since traditional phonology was for poetry or philology, and thus there is "very little phonological information" on dialects (p. 379).

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[1] There are various proposals regarding the appropriate classification of Chinese dialect history, such as the usage of Minimal Lateral Networks (List, 2015).

Due to phonotactic constraints, Pǔtōnghuà is primarily composed of monosyllables that may be subsequently divided into an initial (the first consonant, consonant syllable onset) and a final (everything after the initial) (Norman, 1988; Ramsey, 1987). The final can be additionally split into a medial, a main vowel, and an ending (Ramsey, 1987). As defined by Ramsey (1987), a medial is "a short vowel sound or glide… that comes before the main vowel," a main vowel is "the principal carrier of the syllable," and an ending is the short vowel or consonant that follows the main vowel (p. 44). For example, in the word 'huang', 'h-' is the initial, 'uang' is the final in which 'u' is the medial, 'a' is the main vowel, and 'ng' is the ending (Ramsey, 1987). The maximum syllable structure allowed is thus either CGVV or CGVC (C = consonant, G = glide, V = vowel) and may be referred to as CGVX (Duanmu, 2007). Additionally, VV may either be a long vowel or a diphthong and CG may be realized more as C^G (Duanmu, 2007). Fig. 3 shows both the Middle Chinese and Modern Mandarin syllable structure:
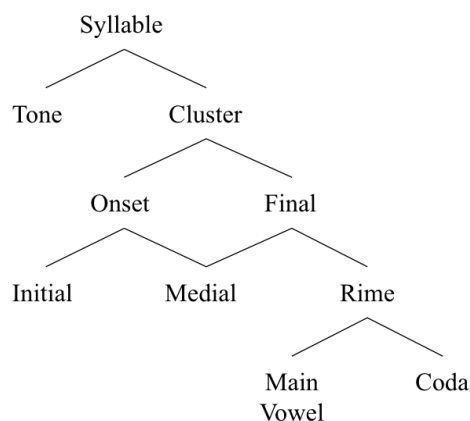

Figure 3: Middle Chinese and Modern Mandarin syllable structure (Shen, 2020, p. 128)

With this in mind, one question that is pertinent to my research question is should I use a glide [w] or a vowel [u] in my transcriptions of the medial? While the majority of linguists, including Yan (2006), Bao (2006), Norman (1988), and Ramsey (1987), transcribe the medial using the high back vowel [u], there are some recent works that use the glide [w], including Duanmu (2007). Ramsey notes that the glide [w] is usually treated as a variant of medial [u] (1987). Some linguists distinguish between [w] and [u], arguing that [w] is a short back rounded medial and [u] is a longer and more vocalic [w] (Karlgren, 1954; Norman, 1988). Duanmu (2007) agrees with Ramsey that [u] and [w] are not contrastive but rather are variants. However, as opposed to Ramsey, he transcribes the sound as [u] when it is the main vowel or latter half of a diphthong and as [w] when the sound comes before the nuclear vowel (Duanmu, 2007). Following Duanmu (2007) and Baxter & Sagart (2014), whose Middle Chinese reconstructions I use, I will be transcribing the medial as [w] and whenever appropriate, the main vowel as a [u].

In terms of tones, Pǔtōnghuà has four tones: high, rising, falling-rising, and falling (Norman, 1988). The tone values are as follows:

	Chao tone numerals
Tone 1	55
Tone 2	35
Tone 3	214
Tone 4	51

Table 2: Pǔtōnghuà tones, adapted from Yan (2006, p. 84)

As opposed to relying on the Chao tone numerals, in my analysis, I will be using the tones in a more relative sense, ie. using Tone 2 for a rising tone and Tone 4 for a falling tone. For the rest of this thesis, wherever relevant, the format of Chinese words will be as follows: Chinese script *pīnyīn* 'gloss'. The tone mark is usually seen over the main vowel, but when the main vowel is omitted by convention, the tone mark is placed over the last vowel (Ramsey, 1987). Pǔtōnghuà also contains tone sandhi, which is when lexical tones change due to adjacent syllables (Ramsey, 1987). For example, in Pǔtōnghuà, a third tone becomes a second tone if a third tone word follows it, such as *hěn* in the example (1).

(1) 很好 *hěn hǎo* 'very good' → *hén hǎo* (Ramsey, 1987, p. 46)

In general, as seen below, Yan (2006), Ramsey (1987), and Lin (2007) tend to agree on the phoneme inventory of Pǔtōnghuà (which is often separated into initials and finals). Note that all authors do agree that there exists a voiceless labiodental fricative [f] and a voiceless velar fricative [x] in Pǔtōnghuà.

Labials	p p' m f v
Dental-Alveolars	t t' n l
	ts ts' s
Retroflexes	tʂ tʂ' ʂ ʐ
Alveolo-Palatals	tɕ tɕ' ɕ
Velars	k k' x

ɿ	ʅ	a	ɣ	o	ɚ
i	u	y	ye	yan	yn
ua	uai	uei	uan	uən	uaŋ
uəŋ	uŋ	uo	ia	ie	iai
iau	iou	iɛn	in	iaŋ	iŋ
iuŋ	ai	ei	au	ou	an
ən	aŋ	əŋ	m̩		

Table 3: Initials, Yan (2006, p. 69)   Table 4: Finals, adapted from Yan (2006, p. 70)

Pīnyīn	[phonetic value]	Pīnyīn	[phonetic value]	Pīnyīn	[phonetic value]
b	[p]	l	[l]	z	[ts]
p	[p']	g	[k]	c	[ts']
m	[m]	k	[k']	s	[s]
f	[f]	h	[x]	zh	[chr]
d	[t]	j	[chy]	ch	[ch'r]
t	[t']	q	[ch'y]	sh	[shr]
n	[n]	x	[sy]	r	[r]

Table 5: Initials, Adapted from Ramsey (1987, p. 42-43)

medial	open ending	-i	-u	-n	-ng	-r
none	a, e, i, u, ü	ai ei	ao ou	an en	ang eng ong	er
medial -i	ia ie		iao iou	ian in	iang ing iong	
medial -u	ua uo	uai uei		uan uen	uang ueng	
medial -ü	üe			üan ün		

Table 6: Finals, Ramsey (1987, p. 44)

	bilabial		labio-dental	dental		post-alveolar		alveolo-palatal		palatal	velar	
stop	p	pʰ		t	tʰ						k	kʰ
fricative			f	s		ʂ		ɕ			x	
affricate				ts	tsʰ	tʂ	tʂʰ	tɕ	tɕʰ			
nasal	m			n							ŋ	
(central) approximant	w ɥ					ɻ				j ɥ	w	
lateral (approximant)				l								

Table 7: Consonants, Lin (2007)

	Front		Central	Back	
	Unrounded	Rounded		Unrounded	Rounded
High	i	y			u
Mid	e		ə	ɤ	o
Mid	ɛ				
Low					
Low	æ/a			ɑ	

Table 8: Vowels, Lin (2007)

2.3 Chángshāhuà

Having discussed Pǔtōnghuà, I proceed with providing some background on Chángshāhuà. Chángshāhuà is the dialect spoken in Chángshā, the capital of China's Húnán province, which has roughly 10 million residents as of 2020 (Croddy, 2022; Wu, 2023). Chángshāhuà falls under the Xiāng dialect group and Changyi subgroup and is often seen as a salient example of the New Xiāng dialects (Yan, 2006). Unlike Old Xiāng dialects, New Xiāng dialects do not preserve voiced obstruent initials from Middle Chinese (Norman, 1988; Ramsey, 1987; Wu, 2023; Yan, 2006). Moreover, the Xiāng dialects are undergoing a transition due to the influence of Mandarin dialects from the north, west, and southwest and are now "complex mixtures of older Southernisms and Mandarinized, newer features," (Ramsey, 1987, p. 97). While the Xiāng dialect group, and consequently Chángshāhuà, tends to be categorized as a

central dialect, Chángshā itself is located in Southern China (Fig. 4, Chángshā labeled in red) (Norman, 1988; Shen, 2020; Wu, 2023).

Figure 4: Map of China and Changsha (Wu, 2023, p. 1)

In contrast to the four tones of Pǔtōnghuà, Chángshāhuà has six tones that may be described as mid, low-rising, high-falling, high, low-falling, and mid-rising (Wu, 2023; Yan, 2006). Below is a general summary of the six Chao tone numerals from various linguists. Note that although the tone values may vary, the general trend of the tone (ie. rising, falling, neutral, etc.) remains consistent. Like with Pǔtōnghuà, my analysis uses these tones in a relative sense but find that Yan's (2006) tones aligned most closely with my data.

	Yan (2006, p. 108)	Bao (2007, p. 68)	Wu (2023, p. 11)
Tone 1	33	33	34
Tone 2	13	13	223
Tone 3	41	41	43
Tone 4	55	55	45
Tone 5	21	11	31
Tone 6	24	24	24

Table 9: Chángshāhuà tones

As for the phoneme inventory, Yan (2006), Bao (2007), and Wu (2023) all seem to be largely in agreement regarding the consonants, including the presence of the voiceless velar fricative [x] and the voiceless labiodental fricative [f]. The authors do propose different numbers of phones: Yan (2006) believes there to be 20 initials and 38 finals, Bao (2007) believes there to be 23 initials and 41 finals, and Wu (2023) believes there to be 19 consonants, 6 monophthongs, 11 diphthongs, and 4 triphthongs.

Labials	p p' m f	
Dental-Alveolars	t t'	l
	ts ts' s z	
Alveolo-Palatals	tɕ tɕ' ɳ̊ ɕ	
Velars	k k' ŋ x	
Glottal	Ø	

Table 10: Initials, Yan (2006, p. 107)

ɿ	a	ɤ	o	i	u
ɤ̃	õ	y	ya	ye	yai
yei	yɛ̃	yan	yn	ua	uɤ
uai	uei	uan	uən	ia	ie
io	iau	iəu	iɛ̃	ian	in
ai	au	an	ei	əu	ən
m̩	n̩				

Table 11: Finals, adapted from Yan (2006, p. 107)

p p' m f
t t'   l
ts ts'   s
tʂ tʂ'   ʂ ʐ̩
tɕ tɕ' ɳ̊ ɕ
k k' ŋ x
Ø

Table 12: Initials, adapted from Bao (2007, p. 67)

ɿ	i	u	y	ʮ	a
o	ə	õ	ã	ya	ye
yai	yei	yɛ̃	ua	uə	uai
uei	ia	io	ie	iau	iəu
iɛ̃	ai	au	ei	əu	

Table 13: Finals, adapted from Bao (2007, p. 68)

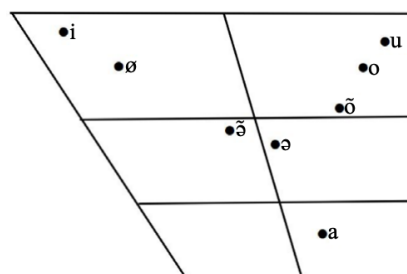|	Bilabial	Labio-dental	Alveolar	Alveolo-palatal	Velar
Plosive	p pʰ		t tʰ		k kʰ
Affricate			ts tsʰ	tɕ tɕʰ	
Nasal	m		n		ŋ
Fricative		f	s	ɕ	x
Approximant			ɻ		
Lateral approximant			l		

Table 14: Consonants, Wu (2023, p. 2)

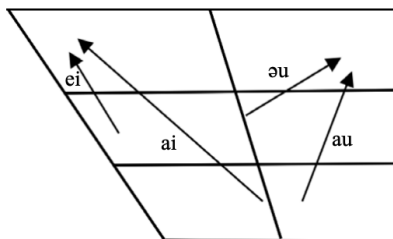Figure 5: Monophthongs, Wu (2023, p. 7)

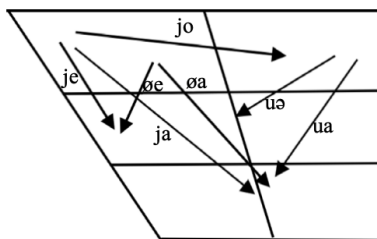Figure 6: Diphthongs, Wu (2023, p. 9)
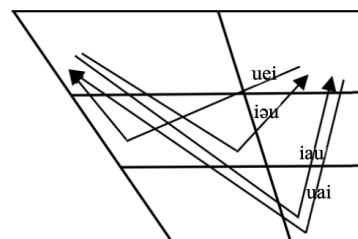
Figure 7: Diphthongs, Wu (2023, p. 9)

Figure 8: Triphthongs, Wu (2023, p. 10)

2.4 Diglossia, translanguaging, and code-switching

Particularly pertinent to the discussion of Chángshāhuà is the concept of diglossia, that is, the presence of a high (H) and low (L) variety of language where the H-variety is reserved for formal and written purposes while the L-variety is reserved for informal and ordinary purposes (Ferguson, 1959). The concept of diglossia itself was coined by Ferguson in 1959 and has been built upon by Fishman to incorporate genetically unrelated languages and to distinguish between functional and territorial compartmentalization (Ferguson, 1959; Fishman, 1967; Hudson, 2002). With regards to China, for most of its history, Classical Chinese was seen as the H-variety and Vernacular Written Chinese and other regional dialects were seen as the L-variety (Su, 2014). Su (2014) posits that the Chinese diglossic formation happened around 220-265 AD due to the increased separation between written and spoken Chinese. Moreover, Su (2014) argues that semantic characters of script and widening gap between Chinese literati and the general public were main contributors to diglossia. Su (2014) goes even further by stating China was actually a triglossia where Classical Chinese was a H-variety and both Vernacular Written and Vernacular Spoken Chinese were L-varieties.

As for the diglossic situation in current-day China, after the 1920s, Vernacular Written Chinese has since become the standard writing style and the counterpart to Modern Standard Chinese (Su, 2014). Pǔtōnghuà then became the standardized common language (ie. the H-variety) and was used for education and media while regional dialects were deemed the L-variety (Su, 2014). In fact, it may even be observed that dialect speakers are forgoing their dialects in favor of Pǔtōnghuà as they believe it will give their children greater access to a better life (Li, 2014; Yu, 2010). Though H-varieties may outlast regional L-varieties in the long term, aspects of the L-varieties are often incorporated into the H-varieties (Hudson, 1991). There also seems to be a three-generation limit, that is the ability to communicate within the L-variety seems to dissipate within three generations of a diglossic society (as indicated by accounts from Taiwan, Suzhou, and Guanzhou), due to an economic motive of educating offspring in the standard language (Li, 2014). For South China, Pǔtōnghuà is the language of the government, school, and public sphere while regional varieties are the language of the private sphere (Ramsey, 1987). Chángshāhuà reflects this; the variety tends to not be taught in any formal setting and rather is used in more informal settings, such as speaking at home and with friends.

As one of the regional dialects of Chinese, Chángshāhuà tends to be perceived as a L-language by Pǔtōnghuà speakers and its own speakers; Chángshāhuà speakers refer to their own Pǔtōnghuà speech as 塑料普通话 *sùliào Pǔtōnghuà* 'plastic Pǔtōnghuà' (Wu, 2023). Here, 塑料 *sùliào* 'plastic' is used to characterize the non-standardness of their Pǔtōnghuà with 'plastic' indexing 'fakeness'. Chángshāhuà relies on the Simplified Chinese script and does not have a separate orthography. For some Chángshāhuà-specific phrases, there is a written form, but the words are used in a manner that would not make sense in Pǔtōnghuà. For other Chángshāhuà-specific words and phrases, there are no written forms and are simply used orally.[2] All of my speakers were unaware that Chángshāhuà had six tones given that it is not taught in school and has no separate orthography. From here forth, Chángshāhuà-specific words will be represented by a toneless pīnyīn simply because there is no grapheme available.

There are two common frameworks under which one may view how multilinguals use multiple speech varieties: code-switching and translanguaging. Code-switching is defined as when speakers switch between varieties within a speech act, either intrasentially (within sentences) or intersentially (between sentences) (Garcia, 2009). While code-switching assumes a conscious decision on the part of speakers to switch between varieties, code-mixing describes when speakers are unable to differentiate between varieties (Garcia, 2009). Code-switching views this phenomenon as occurring between named varieties of separate linguistic systems that contain observable traits (Otheguy et al., 2015).

Translanguaging, on the other hand, approaches the same phenomenon with the idea that languages are constructs (Otheguy et al., 2015). This framework argues that "a named language *cannot* be defined linguistically… in grammatical (lexical or structural) terms" and is instead "defined by the social, political or ethnic affiliation of its speakers," (Otheguy et al., 2015, p. 286). In the foundational book *Bilingual Education in the 21st Century* (2009), Garcia defines languaging as "the fluid ways in which languages are used in the twenty-first century" and argues that "languages are not fixed codes by themselves; they are fluid codes framed within social practices," (p. 22-23, 32). Translanguaging is then a way to describe the language practices of bilingual speakers from the perspective of the speakers (Garcia, 2009). More specifically, translanguaging can be defined as "multiple discursive practices in which bilinguals engage in order to make sense of their bilingual worlds" and is "the act of deploying all of the speaker's lexical and structural resources *freely*," (Garcia, 2009, p. 45; Otheguy et al., 2015, p. 297).[3] This is important as bilingualism does not necessarily mean an equal level of proficiency in both languages, and speakers may have different experiences with each (Garcia, 2009).

While both of these frameworks may be used to describe the same phenomenon, they approach it in different ways. Code-switching takes on the perspective of an outsider and relies on named varieties whereas translanguaging takes on the perspective of the speaker, effectively functioning as a filter of the world for a bilingual (Otheguy et al., 2015). Such a filter is formalized through Cummins' proposal of a Common Underlying Proficiency (CUP) which

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[2] This is from my knowledge as a speaker and corroborated by my speakers.

[3] In my reading of Garcia (2009), I am interpreting bilingualism to also include multilingualism.

argues that bilinguals do not store different speech varieties separately in their brain, but rather they exist together and are dependent on a common language proficiency (Cummins, 2000). Put simply, "bilingualism is not monolingualism times two," (Garcia, 2009, p. 71).

2.5 Loanwords

Due to language contact, words from one variety may be borrowed into another variety. While historically bilingual speech was studied under the lens of language contact and 'interference', it is now seen as 'transference' and may be perceived through borrowings (Garcia, 2009). Below is a brief summary of some relevant borrowing definitions:

Word	Definition	Example
Loanword	Word that is incorporated into one variety from another variety (Campbell, 2013).	English speakers using the word *deja vu*.
Calque	Word that is a direct translation from another variety (Campbell, 2013).	English *black market* is a calque of German *schwarzmarkt* where *schwarz* is 'black' and *markt* is 'market' (Campbell, 2013).
Phonologically assimilated borrowing	Borrowings that become "part of the sound system of the language they come into," (Garcia, 2009, p. 49).	Bilingual New York Latinos using *bíldin* to refer to red-brick New York buildings they live in is a case of an English word becoming part of the Spanish sound system (Garcia, 2009).
Morphologically assimilated borrowing	Also known as loan blends; borrowings that "take on grammatical characteristics of the borrowing language," (Garcia, 2009, p. 49; Haugen, 1953).	US Latinos using *rufo* to refer to 'roof' is a case of English words with Spanish morphology (Garcia, 2009).

Table 15: Borrowing definitions

When a foreign word is borrowed into Pǔtōnghuà, sometimes, the word is adapted to the sound system (phonologically assimilated borrowing) and represented with one character per syllable (Lin, 2007). As the characters are used as sound representation, they do not necessarily convey any meaning; phonologically assimilated loanwords tend to be used for proper names (Lin, 2007). A foreign word may also be subject to a meaning-based method when borrowed into Pǔtōnghuà; this method is usually used for new objects and concepts (Lin, 2007). A

meaning-based method may either take the form of a direct morpheme-by-morpheme translation (also known as a calque) as is evident in example (2a) where the English borrowing 'honeymoon' in Pǔtōnghuà is literally 'honey' and 'moon' or in the form of a new word that captures the essence of the object as is seen in example (2b) where 'train' in Pǔtōnghuà is 'fire-vehicle' (Lin, 2007).

  (2a) 蜜月 *mìyuè* 'honeymoon'   (Lin, 2007, p. 236-237)
  (2b) 火车 *huǒchē* 'train'

One foreign word may map to multiple corresponding Chinese words within even the same speaker group and tends to occur with sound-based loanwords since there are multiple ways to adapt borrowings to a sound system (Lin, 2007). However, if there is both a meaning-based and a sound-based loanword for the same borrowing, the meaning-based one tends to become the accepted norm (Lin, 2007).

2.6 Cross-linguistic [x-] to [f-] shift

Interestingly enough, a fricative shift from the voiceless velar to the voiceless labiodental has been observed cross-linguistically before in English, specifically from Old English [x] to Middle English [f] (Lauttamus, 1981). The only difference is that the fricative shift occurs word-finally in English whereas it is observed to be occurring word-initially in Chángshāhuà. A good example is reflected in the spelling and pronunciation of the '-gh' ending, such as in English words 'rough' and 'tough', which began as a [-x] fricative and shifted to a [-f] in Modern English (Lauttamus, 1981). Ladefoged proposes that "there is no articulatory reason why this change should have occurred," and rather that the shift happens because the two fricatives sound similar due to their graveness (Ladefoged, 1982, p. 262)[4]. A phoneme, both consonant and vowel, may be either grave or acute depending on the gravity of the phoneme (Jacobson, 1961). A grave sound is "generated by a larger and less comparted mouth cavity, while acuteness originates in a smaller and more divided cavity," (Schulz et al., 2021, p. 21). Lauttamus recognizes that Ladefoged's approach implies a phonologically conditioned sound change and counters by arguing the change is phonetically conditioned instead (Lauttamus, 1981). Others have argued that the [-x] to [-f] change in English happened in part due to a misperception of the velar fricative as a labial because the velar fricative may have had some lip-rounding initially such that it was pronounced as [xʷ] (Ringe & Eska, 2013). Through historical linguistics, Lauttamus (1981) posits instead that labialized vowels before the fricative have transferred their labial feature to the fricative, and the cause of the shift is articulatory. With this in mind, Lauttamus (1981) provides the following rule:

  (3) [x] → [f] / [V$_{+lab}$]_#   (Lauttamus, 1981, p. 3)

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[4] Citation is from the second edition; Lauttamus cites the first edition from 1975.

In fact, this aligns with an already proposed rule for this phenomena despite limited research into the shift. Yan proposes the following labiodentalization rule for closed syllables in New Xiāng dialects (2006):

(4) *x- → f- / #_u (*o, *ai, *i, *en, *aŋ)　　　　(Adapted from Yan, 2006, p. 112)

The asterisks symbolize the reconstructed proto-forms of Chángshāhuà, that is Middle Chinese, and the rule states that the Middle Chinese voiceless velar fricative /x-/ becomes a Chángshāhuà voiceless labiodental fricative [f-] when it is in the environment of a [u] (with optional endings of [o], [ai], [i], [en], and [aŋ]) (Yan, 2006). Note that it appears that Yan is transcribing as [u] is what I have transcribed as [w]. Given this, I believe that a similar reason may be underlying the fricative shift in Chángshāhuà, that is, my hypothesis is that syllables that surface in Pǔtōnghuà with a voiceless velar fricative [x-] followed by a semivowel [w] (and consequently its allophonic counterpart [u]) will surface as a voiceless labiodental fricative [f-] in Chángshāhuà. The phenomena is also recognized by Norman who writes, "In many dialects there is a confusion of f and x before rounded vowels," (Norman, 1988, p. 192). Although my hypothesis is that velar fricatives in a rounded Pǔtōnghuà environment surface as labiodental fricatives in Chángshāhuà, I test various [x-] initial Pǔtōnghuà words of all tones.

3. Methods

My investigation of the fricative shift consisted of a series of semi-structured interviews on Zoom with five native Chángshāhuà speakers. I interviewed each speaker twice. In the first interview, I asked each speaker a few demographic questions regarding their age, place of birth, place where they were raised, and familiarity with Simplified Chinese, Pǔtōnghuà, and Chángshāhuà. Speakers then read a passage aloud, first in Chángshāhuà and then in Pǔtōnghuà to avoid any priming done by reading the passage first in Pǔtōnghuà. I told the speakers that they would be participating in a study regarding differences between Chángshāhuà and Pǔtōnghuà but did not tell them the specific purpose of analyzing the fricative shift. The second interview consisted of any follow-up questions to data observed in the first interview, such as questions regarding loanwords and translanguaging. Each interview lasted no more than 30 minutes. I conducted the interviews in Pǔtōnghuà, but speakers were free to answer in whatever speech variety they felt comfortable in at the time (ie. English, Pǔtōnghuà, or Chángshāhuà). Following the interviews, I took all the readings of the passage and analyzed the [x-] initial syllables in Praat. In addition, I also considered the Middle Chinese reconstructions by Baxter & Sagart (2014). Given that each speaker read the passage twice and there were five speakers, there were 10 transcriptions with each containing the IPA transcription and tone of the syllable.

With the help of a native Chángshāhuà-speaking consultant, I created a passage with the purpose of testing various [x-] initial words in Pǔtōnghuà, including those outside of what I have hypothesized to surface as [f-] in Chángshāhuà. Additionally, an effort was made to use all the possible tone for each syllable (eg. all four tones for 'hao' were used in the passage: 蒿 *hāo*

'weed', 毫 *háo* 'thin hair', 好 *hǎo* 'good', and 耗 *hào* 'mouse'). In total, 59 different Pǔtōnghuà [x-] initial words were embedded in the passage covering as many tones as possible while still making the passage sensible. The passage, titled 小猴子下山 *xiǎo hóuzi xiàshān* 'Little Monkey Goes Down the Mountain,' its pīnyīn version, and its English translation are available in the appendix (see Section 7) along with the interview script. One note to keep in mind is that the passage is written with some Pǔtōnghuà phrases that may not be commonly used in Chángshāhuà. As such, I let my speakers read the passage without interruption, that is, they were free to diverge from the words in the passage, such as using a different word or phrase. However, this may have impacted their choice of lexemes in their readings.

Lastly, based on the words in the passage and my hypothesis of where the shift occurs, I expected 31 words to undergo the shift and 28 words to not shift. Another way of looking at this is that since [x] tends to be represented in pīnyīn by 'h' and [w] and [u] tend to be represented by 'u' (Duanmu, 2007; Ramsey, 1987), I expected words with a pīnyīn beginning with 'hu-' to surface as [f-] in Chángshāhuà.

For this study, I recruited five native speakers of Chángshāhuà. The participants in the survey were recruited via word-of-mouth. All five speakers were born and raised in Chángshā. From here onwards, I refer to the speakers as Speaker A, B, C, D, and E. Speaker A resided in the United States while Speakers B, C, D, and E resided in Chángshā. Speaker E was the youngest at 36 years old while Speaker C was the oldest at 72 years old. All speakers reported being able to fluently read Simplified Chinese and had Chángshāhuà as their first language. As for Pǔtōnghuà, all speakers reported a native level of proficiency except Speaker C who reported an adequate level of proficiency. Lastly, all speakers responded in their interview in Pǔtōnghuà except for Speaker D who responded in Chángshāhuà.

4. Findings

I begin this section by discussing general findings from the results. Then, I highlight some notable exceptions to the fricative shift along with some interesting speaker occurrences.

4.1 Results

I categorized the tokens in four categories: first, the speaker does not shift the fricative and pronounces the word with an [x-]. Second, the speaker does shift the fricative and pronounces the word with an [f-]. Third, the word appears multiple times throughout the passage, and the speaker sometimes shifts the fricative and sometimes does not shift the fricative. Put another way, the speaker pronounces the word with both [x-] and [f-]. Fourth, the speaker does not say the word and instead omits the word or substitutes in a different word.

Based on the initials (onsets) of the words I tested, I predicted that 31 words should have shifted and 28 words should not have shifted in their Chángshāhuà readings. Out of the 59 [x-] initial words I tested, the initial results indicate that 34 words were not shifted by any speaker and 25 words were shifted by at least one speaker. Out of the 34 words not shifted by any speaker, there are seven words that I predicted should have shifted. Out of the 25 words that were

shifted by at least one speaker, there is one instance of a speaker shifting a word that I predicted should not have shifted and one instance of a speaker shifting a word that no one else shifted.

The exceptions will be further discussed in Section 4.2. After accounting for these one-offs through follow-ups with the speakers, the final results reveal that there are 36 words that did not shift (eight of which were expected to shift) and 23 words that did shift (all of which were words that were expected to shift) in their Chángshāhuà readings. These results are summarized in the table below.

	Words that did shift	Words that did not shift	Total
Words expected to shift	23	8	31
Words not expected to shift	0	28	28
Total	23	36	59

Table 16: Summary of the results

My hypothesis held true for the most part: the fricative shift tends to happen in Chángshāhuà when it is followed by a rounded high back vowel [u] or by a semivowel [w] in Pǔtōnghuà. Take, for example, the spectrograms for 虎 *hǔ* 'tiger' below as pronounced by Speaker E at the same location in the passage.
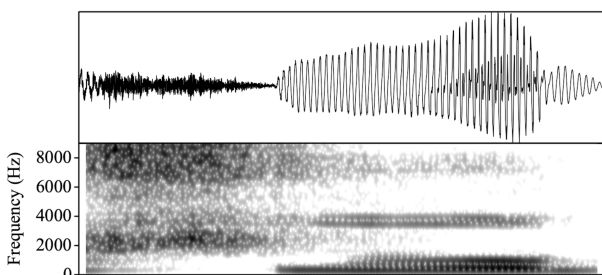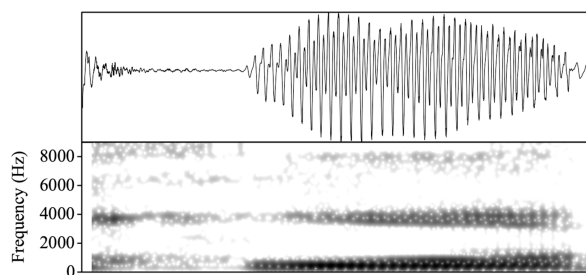

Figure 9: CHA [fu], Speaker E   Figure 10: PUT [xu], Speaker E

The difference may be clearly seen in the onset of the syllable. There is evidently a lot more noise in the beginning of the syllable in Chángshāhuà (Fig. 9) than in Pǔtōnghuà (Fig. 10) which indicates the fronting of the velar fricative into the labiodental fricative. While [f] is a diffuse fricative, [x] has properties of both compact and diffuse fricatives. Since the fricative channel of a velar sound is shorter than that of a labiodental sound, non-peak frequencies experience greater dampening and thus velar fricatives have lower frequency spectral peaks. Labiodental fricatives have been observed as having a spectral peak close to 8000 Hz while velar fricatives have their dominant energy concentrated around the "F2 of the adjacent vowel and very little energy in the higher frequencies" (Reetz & Jongman, 2009, p. 191).

Figure 9 shows that [f]'s spectral peak is primarily concentrated around 8000 Hz while Figure 10 shows that [x]'s spectral peak is around 620 Hz and around 3700 Hz. The lower frequency of the first spectral peak in Figure 10 indicates a velar fricative while the higher spectral peak in Figure 9 indicates a labiodental fricative. This is bolstered by the fact that Figure 10 has much less energy in the higher frequencies than Figure 9. There is also no voicing bar, indicating that these are voiceless fricatives.

The same is true when [x-] is followed by a semivowel in Pǔtōnghuà, specifically [w]. Shown below is 话 *huà* 'language' as pronounced by Speaker A at the same instance in the passage. Again, there is much more noise in the Chángshāhuà onset (Fig. 11) than in the Pǔtōnghuà onset (Fig. 12).
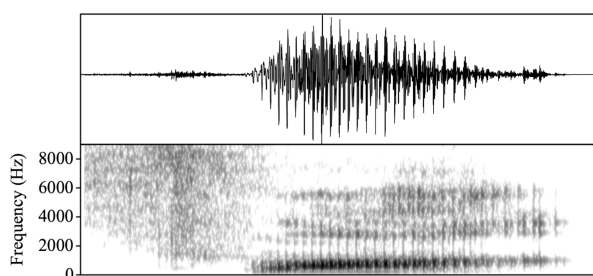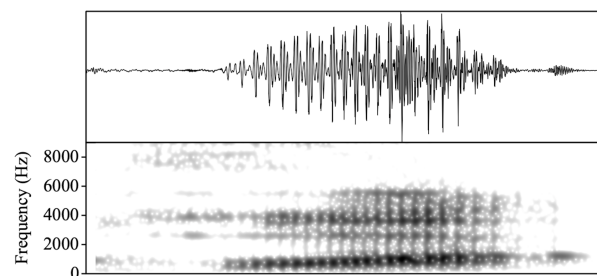
Figure 11: CHA [fa], Speaker A   Figure 12: PUT [xwa], Speaker A

Also, the noise in Figure 11 shows that [f] is concentrated around roughly 8000 Hz while Figure 12 shows that [x] has a faint spectral peak at around 700 Hz, 2700 Hz, and 3900 Hz. Once more, there is no observable voicing bar, indicating these are voiceless fricatives. The lower frequency of the first spectral peak coupled with low energy in the higher frequencies in Figure 12 indicates the Pǔtōnghuà pronunciation has a velar fricative while the higher frequency of the spectral peak (around 8000 Hz) in Figure 11 indicates the Chángshāhuà pronunciation has a labiodental fricative. While this change is not obligatory as speakers tend to vary the amount of fricative shifts in their speech, the shift may only optionally occur in a [u] or [w] environment. The shift is much more frequent in Chángshāhuà than Pǔtōnghuà, but it does appear in both varieties. In fact, only Speaker E avoided the fricative shift completely in their Pǔtōnghuà reading. Importantly, words that underwent the shift in Pǔtōnghuà had to also have been shifted by the speaker in Chángshāhuà[5].

As for tones, I found no correlation between the Pǔtōnghuà tone of a word and the Chángshāhuà tone of a word. For example, there was nothing to indicate that a Pǔtōnghuà tone of 1 would always translate to a Chángshāhuà tone of 4. I did find that the syllable tone may change. Put another way, speakers were able to use either a Chángshāhuà or a Pǔtōnghuà tone regardless of whether they produced [x-] or [f-]. In the Section 5, I discuss the possibility that these two varieties are blended and how this blending may have affected the tones and fricatives

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[5] One note is that Speaker C shifted 呼 hè 'to intimidate' in Pǔtōnghuà and omitted the word in Chángshāhuà.

my participants produced. To better visualize this, see below for the spectrograms from each speaker when saying the word 混 *hùn* 'dawdle' in Chángshāhuà.
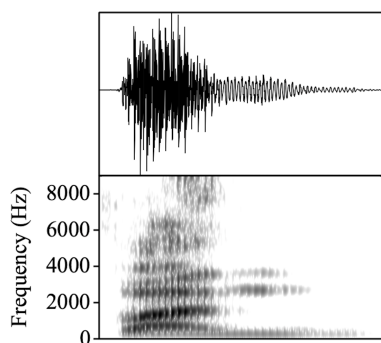

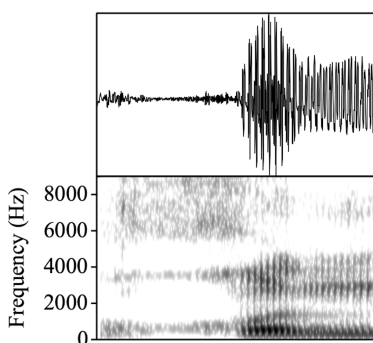Figure 13: [fən], CHA T5, Speaker A[6]

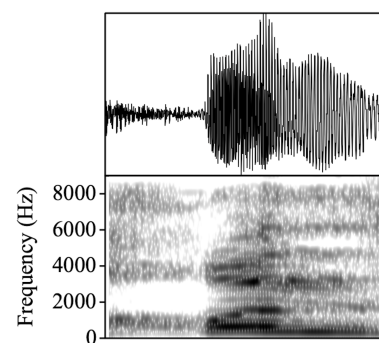Figure 14: [xwən], PUT T4, Speaker B
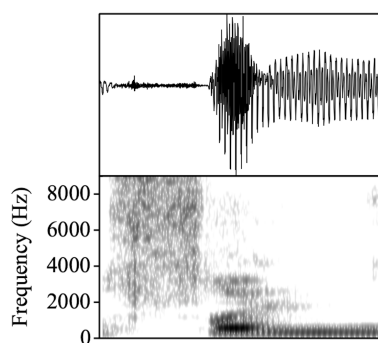

Figure 15: [xwən], PUT T4, Speaker C
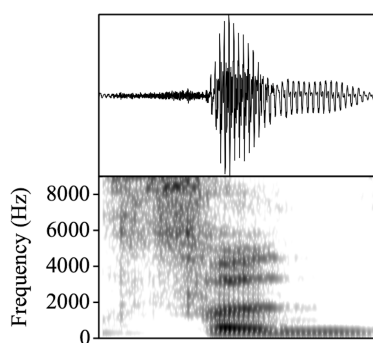

Figure 16: [fən], CHA T5, Speaker D

Figure 17: [fən], CHA T5, Speaker E

From this, it is evident that Speakers D and E produced a voiceless labiodental fricative [f-] while Speakers B and C produced a voiceless velar fricative [x-]. When looking at the onset of the syllable, Speakers B (Fig. 14) and C (Fig. 15) have much lower frequency spectral peaks indicating a velar fricative (their spectrograms resemble those in Fig. 10 and Fig. 12). Speaker B's spectrogram has a spectral peak around 660 Hz and one around 3500 Hz while Speaker C's spectrogram has a spectral peak around 780 Hz and one around 3800 Hz. On the other hand, Speakers D and E's spectral peaks are concentrated around 8000 Hz – both of which resemble those in Figure 9 and Figure 11. Given that their spectral peaks are much higher frequency than the first spectral peak observed in Speakers B's and C's spectrograms, these onsets resemble more of [f-] while Speakers B's and C's resemble more of [x-]. While Speakers B and C have some energy toward the higher frequencies, relatively speaking, Speakers D and E still have much more higher frequency energy concentration. Lastly, though Speaker A's spectrogram does

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[6] Given the ambiguity of this spectrogram, this token was listened to by other Chángshāhuà speakers and determined to be [fən].

not clearly show either a velar nor a labiodental fricative, other Chángshāhuà speakers agreed this token to be [fən] upon listening.

When I first listened to Speaker B and Speaker C's tokens here, they seemed to resemble their Pǔtōnghuà pronunciations more than the other speakers. While Speakers A, D, and E seemed to use more of a Chángshāhuà Tone 5 (T5) (low-falling), Speakers B and C seemed to use more of a Pǔtōnghuà Tone 4 (T4) (falling). It turns out when comparing each speaker's Chángshāhuà reading with their Pǔtōnghuà reading, those who do not shift have starting and ending pitches that aligned much more closely between their readings than those who do shift. Table 17 shows the starting and ending pitches of the speakers' Chángshāhuà and Pǔtōnghuà readings of 混 *hùn* 'dawdle'. Note that Speakers B and C's rows are highlighted in orange as they are the ones who did not shift their fricative in the Chángshāhuà reading.

Speaker	CHA starting pitch (Hz)	PUT starting pitch (Hz)	Difference in starting pitches (Hz) (PUT - CHA)	CHA ending pitch (Hz)	PUT ending pitch (Hz)	Difference in ending pitches (Hz) (PUT - CHA)
A	108.1	225.2	117.1	92.2	152.6	60.4
B	121.7	113.1	-8.6	128.7	107.5	-21.2
C	305.7	302.1	-3.6	301.4	284.0	-17.4
D	132.0	296.6	164.6	129.6	291.2	161.6
E	192.2	320.7	128.5	169.8	304.1	134.3

Table 17: 混 *hùn* 'dawdle'

Speakers A, D, and E shifted their fricatives, and their Pǔtōnghuà starting pitches were over 100 Hz higher than their Chángshāhuà starting pitches. In addition, their Pǔtōnghuà ending pitches were much higher than their Chángshāhuà ending pitches. Speakers B and C, however, did not shift their fricative, and their Pǔtōnghuà and Chángshāhuà starting pitches had less than a 10 Hz difference. Their ending pitches also had a much smaller difference across both readings. It seems then that Speakers B and C are using a Pǔtōnghuà tone here when they do not shift their fricatives.

However, it is not always the case that the pronunciation the speaker chooses matches the tone they use. In some cases, it does not matter whether or not the speaker produces the shift, the tone used by the speaker is the same as the other speakers. Take a look at the spectrograms below for the speakers' Chángshāhuà readings of 话 *huà* 'language'.
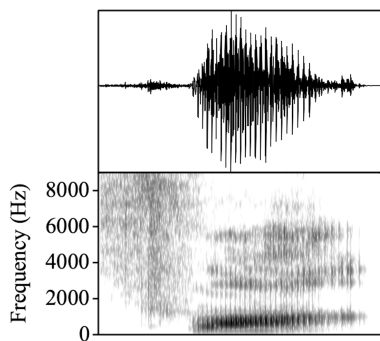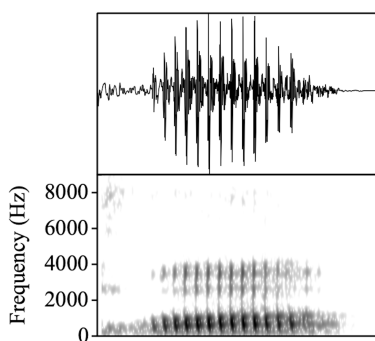
Figure 18: [fa], CHA T5 Speaker A

Figure 19: [xwa], CHA T5, Speaker B
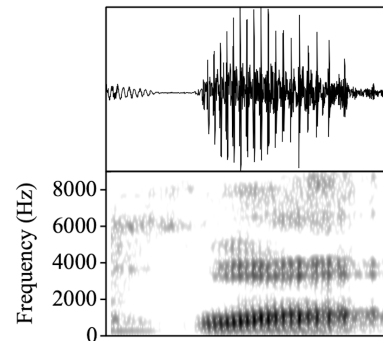
Figure 20: [xwa], CHA T5, Speaker C
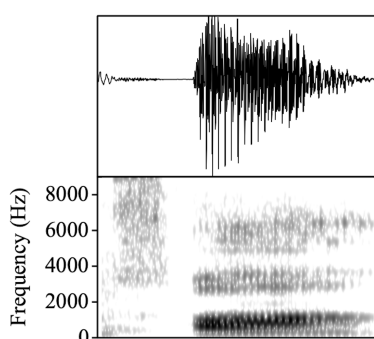
Figure 21: [fa], CHA T5, Speaker D
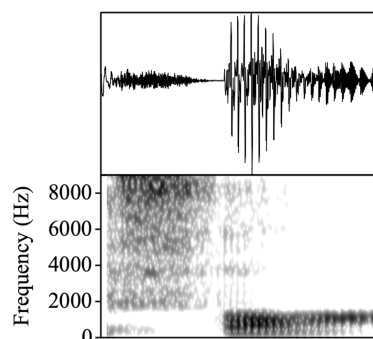
Figure 22: [fa], CHA T5, Speaker E

Once more, Speakers A, D, and E all shifted their fricative while Speakers B and C did not. This is evident by the amount of noise in the beginning of the spectrogram. Speakers A, D, and E all have a large amount of energy concentrated near the top of their spectrograms (~8000 Hz) which indicates a labiodental fricative [f]. On the other hand, Speakers B and C have their first spectral peak around 540 Hz and 620 Hz, respectively, and much less energy concentrated in the higher frequency range. Again, given the lower frequency spectral peak, this indicates that Speakers B and C produced a velar fricative [x-] instead.

Now, take a look at the table below with their starting and ending pitches across both readings. Speakers B and C's rows are highlighted in light orange again as they are the ones who did not shift their fricative in the Chángshāhuà reading.

Speaker	CHA starting pitch (Hz)	CHA ending pitch (Hz)	Difference (Hz) (ending - starting)	PUT starting pitch (Hz)	PUT ending pitch (Hz)	Difference (Hz) (ending - starting)
A	99.3	78.5	-20.8	151.7	180.1	28.4[7]
B	83.1	76.1	-7.0	112.4	86.9	-25.5
C	149.6	133.7	-15.9	258.5	210.5	-48.0
D	148.3	125.6	-22.7	250.9	162.8	-88.1
E	185.2	157.8	-27.4	259.5	177.8	-81.7

Table 18: 话 *huà* 'language'

In contrast to what we saw prior with 混 *hùn* 'dawdle', in Chángshāhuà, all speakers pronounced 话 *huà* 'language' with the same tone, Tone 5 (low-falling), in Chángshāhuà regardless of whether they used [x-] or [f-]. In Pǔtōnghuà, all speakers used Tone 4 (falling). This becomes apparent when looking at the difference in ending and starting pitches between their Chángshāhuà and Pǔtōnghuà tokens. For Chángshāhuà, speakers averaged an -18.8 Hz drop between their starting and ending pitch. For Pǔtōnghuà, excluding Speaker A, speakers averaged a -60.8 Hz drop between their starting and ending pitch. Speakers B, C, D, and E all had much higher pitch drops in their Pǔtōnghuà tokens than their Chángshāhuà tokens. While both the Chángshāhuà and Pǔtōnghuà tones are falling tones, the distinction may be made that the Chángshāhuà tone for 话 *huà* 'language' is a smaller range falling tone than the Pǔtōnghuà tone. Moreover, all the speakers had higher starting and ending pitches for their Pǔtōnghuà tokens than their Chángshāhuà tokens which further indicates that they are using a different tone in Chángshāhuà than they are in Pǔtōnghuà. It is clear then that for 话 *huà* 'language', regardless of whether or not the speaker shifted their fricative, they all used a Chángshāhuà low-falling tone in their Chángshāhuà reading. From this, I conclude that speakers are selecting both the pronunciation (whether they shift or not) and the tone (the Chángshāhuà or Pǔtōnghuà) during their readings.

4.2 Notable fricative shift exceptions

As mentioned before, there are eight words that did not shift despite my initial prediction that they would do so given their minimal environment. These words can be divided into three main groups: the word 猾 *huá* 'sly', the 'huan' word group, and the 'huo' word group. In addition to these exceptions, there is one occurrence where a speaker shifted a word I did not predict to shift and one occurrence where a speaker shifted a word that no one else shifted. I will

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[7] I believe Speaker A was emphasizing their Pǔtōnghuà token. Consequently, their Pǔtōnghuà ending pitch was affected by their intonation as their token has a rising tone. The other speakers all had a falling tone for their Pǔtōnghuà token (which is expected).

first address these two occurrences and begin with Speaker B's Chángshāhuà pronunciation of 哄 *hǒng* 'to persuade'. None of the other speakers shifted their fricatives for this word, and 哄 *hǒng* 'to persuade' is predicted to not undergo the shift given that there is no labialization involved after the fricative. Noticing this, I followed up with Speaker B and asked about their pronunciation. In the initial recording, Speaker B pronounced 哄 *hǒng* 'to persuade' like [fən], as if it was part of the 'hun' word group. However, Speaker B later corrected their pronunciation and pronounced it like the other speakers, [xən]. Speaker B also pronounced the word as [xən] when it appeared later in the passage. It seems then that this first occurrence may have just been a slip of the tongue.

The second occurrence is Speaker E's Chángshāhuà pronunciation of 缓 *huǎn* 'slow' which brings into conversation loanwords. A loanword is when speakers of a variety incorporate words from another variety into their vocabulary (Campbell, 2013). Loanwords fall under the umbrella of linguistic borrowing (refer back to Section 2.5 for additional information). Given Yan's (2006) rule and my hypothesis of semivowels [w] (and [u]) in Pǔtōnghuà corresponding to the fricative shift in Chángshāhuà, it seems that 缓 *huǎn* 'slow' should surface as a labiodental [f-]. However, contrary to what I expected, all speakers except Speaker E did not shift. Curious about this phenomena, I followed up with Speaker E and asked how they would go about pronouncing this word again and why they intuitively pronounced it the way they did. Speaker E noted that this word is a literary word and more of a Pǔtōnghuà word that they would not say in Chángshāhuà, to which the others agreed. Rather, there are alternative words that they would use. However, since I wrote this word in the passage, Speaker E still pronounced the word. While all other speakers pronounced 缓 *huǎn* 'slow' as [xon], Speaker E pronounced it [fan], like the Chángshāhuà pronunciations of 还 *huán* 'to return' and 环 *huán* 'environment'. Speaker E said that if they had to say it, both [fan] and [xon] seemed appropriate to them but they probably would say [xon] as they tend to default to the Pǔtōnghuà pronunciation of words that they do not know how in Chángshāhuà. Wanting to see if the [fan] pronunciation is acceptable to other speakers, I asked them in their follow-up interviews. The other speakers refused that pronunciation with Speaker A saying that if someone were to pronounce 缓 *huǎn* 'slow' like [fan], Speaker A would understand them but think of them as a non-native Chángshāhuà speaker. Given that Speaker E is the youngest of all the speakers, it may be that there is a change in acceptability rates of words undergoing the shift for younger speakers or it may simply be attributed to just Speaker E.

Having addressed these two occurrences, I return to the eight words that failed to shift despite having the environment to do so. I begin with the word 猾 *húa* 'sly'. The fascinating note here is that despite having the same tone, none of the speakers shifted 猾 'húa' but three speakers had opted to shift [x-] to [f-] in 华 *húa* 'flourishing'. Again, I followed-up with the speakers and found that 猾 *húa* 'sly' is a Pǔtōnghuà word that is not used in Chángshāhuà, that is, it is a loanword. As a result, all speakers had defaulted to the Pǔtōnghuà [x-] pronunciation of the word as opposed to shifting it to [f-] in Chángshāhuà since they had not encountered it in Chángshāhuà before.

As for the 'huan' word group, the only words to shift are 还 *huán* 'to return' and 环 *huán* 'environment'. Across the board, no speaker shifted [x-] to [f-] in 欢 *huān* 'pleased', 缓 *huǎn* 'slow' (except the Speaker E occurrence I addressed in the previous paragraph), nor 换 *huàn* 'exchange'. I have already discussed how 缓 *huǎn* 'slow' is a loanword and thus avoids the shift, but why do 欢 *huān* 'pleased' and 换 *huàn* 'exchange' avoid it? It turns out that according to the speakers, 换 *huàn* 'exchange' is also a loanword. Interestingly, the loanword has become so entrenched in Chángshāhuà, that the word used prior, *tiao*[8], seems to have fallen out of favor according to Speakers A and C. In particular, Speaker A recalls using the word *tiao* frequently throughout their childhood and rarely using 换 *huàn* 'exchange' but acknowledges that the trend has switched nowadays with *tiao* being seldom used and 换 *huàn* 'exchange' dominating speech instead. Speaker C echoed this sentiment. In fact, at first, Speaker A did not believe that 换 *huàn* 'exchange' was a loanword, but after spending a significant amount of time thinking about it, they realized that it in fact was. Thus, 换 *huàn* 'exchange' avoids the fricative shift because it is a loanword from Pǔtōnghuà too. Moving on to 欢 *huān* 'pleased', this word is particularly fascinating because it avoids the shift but none of the speakers think it is a loanword nor could they think of an alternative word that would have been used instead. Given that 欢 *huān* 'pleased' seems to have disappeared from Chángshāhuà within the span of one generation as Speaker A required significant time to come up with the previous Chángshāhuà word *tiao*, it may be that 欢 *huān* 'pleased' is also a Pǔtōnghuà loanword that has become entrenched in Chángshāhuà and has effectively replaced the previous Chángshāhuà word. I return to discuss 欢 *huān* 'pleased' further in Section 5.

The last group is the 'huo' word group which includes 豁 *huō* 'stubborn', 活 *huó* 'alive', 伙 *huǒ* 'partner', and 惑 *huò* 'confused'. None of the speakers shifted any of these words, but upon further review, some of these are loanwords. In particular, 豁 *huō* 'stubborn' and 惑 *huò* 'confused' were agreed to be loanwords by the speakers as they said they would not use those words in Chángshāhuà. On the other hand, none of the speakers seemed to be able to come up with an alternative to 活 *huó* 'alive' and 伙 *huǒ* 'partner' and did not believe them to be loanwords. I was particularly curious about the 'huo' word group though because it seemed to consistently refuse the fricative shift and decided to test two more words that were not believed to be loanwords in the follow-up: 火 *huǒ* 'fire' and 货 *huò* 'goods'.

I wanted to see if there were any other words that refused the shift and whether or not the shift was tone dependent. For example, in the 'huan' word group, the second tone 还 *huán* 'to return' and 环 *huán* 'environment' underwent the fricative shift while the rest of the 'huan' words did not. In case this was a similar situation, I wanted to cover my bases and ensure it was not tone reliant. I was unable to test the first tone *huō* word since there is not another commonly used word besides the loanword 豁 *huō* 'stubborn' that I used already in the passage. I found that none of the speakers shifted 火 *huǒ* 'fire' nor 货 *huò* 'goods'. Subsequently, I asked the speakers if [fo] was an acceptable pronunciation for any tone of a 'huo' word to which they all adamantly

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[8] There is no grapheme in Chinese orthography associated with this word.

rejected and which Speaker A reiterated that if anyone were to pronounce it like that, they would understand them but think of them as a non-native speaker. I return to this matter in Section 5.

4.3 Interesting speaker occurrences

Throughout the interviews, there were various noteworthy speaker occurrences. A couple speakers prefaced that their Pǔtōnghuà was "non-standard" and used the phrase 塑料普通话 *sùliào Pǔtōnghuà* 'plastic Pǔtōnghuà' to describe it. This demonstrates that Chángshāhuà speakers are aware that there is a Chángshā accent even when speaking Pǔtōnghuà. However, this is not a one-way street. While Chángshāhuà may affect the speakers' Pǔtōnghuà speech, it can also be said that Pǔtōnghuà affects the speakers' Chángshāhuà speech. As shown in Section 4.2 and the mere fact that the shift is optional, Chángshāhuà has been clearly impacted by the increasingly prevalent usage of Pǔtōnghuà in Chángshā. Speaker C reinforces this point as they mentioned that some of their Pǔtōnghuà may have 漏 *lòu* 'leaked' into their Chángshāhuà, so some of their Chángshāhuà words may not have been entirely accurate in pronunciation nor tone.

The impact of Pǔtōnghuà on Chángshāhuà is seen also outside words which I predicted the fricative shift would occur. A salient example of this is with the word 蛤 *há* 'toad'. Though the word is pronounced [xa] in Pǔtōnghuà, it is pronounced [ka] in Chángshāhuà. In their Chángshāhuà readings, Speakers B, C, D, and E all opted to use the Chángshāhuà pronunciation while Speaker A used the Pǔtōnghuà pronunciation with the Chángshāhuà word's tone. Evidently, speakers are also selecting which variety to use, especially since many have noted that they default to the Pǔtōnghuà pronunciation when they are unsure of a word.

Interestingly, though not related to the fricative shift, Speaker E substituted in the Chángshāhuà phrase used for 'children' when reading the passage in Chángshāhuà. Rather than saying 孩子 *hái zi* 'children', Speaker E said 细伢子 *xì yá zi* 'children' instead. This Chángshāhuà phrase has a written form since its words separately do exist in Pǔtōnghuà, but one would never hear them combined together such as in this phrase. Moreover, the words are pronounced in a different manner in Chángshāhuà than Pǔtōnghuà. As opposed to 伢 *yá* being pronounced like [jaɻ] in Pǔtōnghuà, it is pronounced like [ŋɑɻ] in Chángshāhuà. In contrast, the other speakers all opted to say 孩子 *hái zi* 'children' with the Chángshāhuà tone applied. I will note that *hai zi*[9] means 'shoes' in Chángshāhuà and that 孩子 *hái zi* 'children' is seldom used, although speakers will understand it with context clues. Instead, 细伢子 *xì yá zi* or 崽 *zǎi* tends to be used in Chángshāhuà to mean children (崽 *zǎi* is used in Pǔtōnghuà to refer to puppies).

In a similar manner, Speaker A substituted in the Chángshāhuà phrase used for 'mother' in their Chángshāhuà reading. Instead of saying 妈妈 *māmā* 'mother', Speaker A said 姆妈 *mǔmā* 'mother'. Again, a written form exists since these characters exist in Pǔtōnghuà, however, this term would never be used in Pǔtōnghuà. Additionally, as opposed to 姆 *mǔ* being pronounced like [muˇ] as it would be in Pǔtōnghuà, it is pronounced like [əmɬ]. The other speakers opted to pronounce 妈妈 *māmā* 'mother' as is with a Chángshāhuà tone instead.

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[9] There are no graphemes in Chinese orthography associated with these words.

In addition, Speakers D and E noted that they sometimes used Pǔtōnghuà when they mean to use Chángshāhuà and vice versa. Speaker E explained that this happens because one variety just happens to show their ideas more than the other variety. Both speakers can distinguish between Chángshāhuà and Pǔtōnghuà but agreed that sometimes they will use Pǔtōnghuà tones and pronunciations with their Chángshāhuà. Speaker E continued to say that in Chángshā, an increasing number of children are speaking only Pǔtōnghuà and are either passively bilingual in Chángshāhuà or cannot understand Chángshāhuà at all. As a result, the usage of Chángshāhuà by older people is falling while the usage of Pǔtōnghuà is rising.

These findings are consistent with another interesting occurrence in Speaker D's Chángshāhuà reading of the passage. Specifically, for one piece of dialogue by the little monkey, 咳，游这么快干嘛去呀? *Hāi, yóu zhème kuài gān ma qù ya?* 'Hey, why are you swimming so fast?', Speaker D switched to Pǔtōnghuà before switching back to Chángshāhuà when responding as the toad. Perhaps Speaker D felt as if there was something that could be said with Pǔtōnghuà that could not have been conveyed in the same manner as Chángshāhuà. Or perhaps there is something about using two varieties that helps drive home the point that this is a conversation. Regardless of the reason, this occurrence provides a good glimpse into the interaction of these two varieties and will be further discussed in the next section.

The findings revealed that there may be more than just completely phonological factors at play. Contrary to my expectations, I find that not every word that had a labialized environment in Pǔtōnghuà surfaces as a labiodental fricative in Chángshāhuà. I did confirm that the shift does involve the voiceless velar fricative [x] and the voiceless labiodental fricative [f], and in general, the shift tends to happen to words with a pīnyīn beginning with 'hu-'. Interestingly, in addition to changing the fricative, speakers are also sometimes changing the tone of the word. In other words, speakers are selecting what features they want from Chángshāhuà and Pǔtōnghuà in their utterances. There are also some notable exceptions to the fricative shift where none of the speakers shifted despite my prediction. Sometimes, the speakers would substitute in more Chángshāhuà-specific words in their Chángshāhuà reading. In Section 5, I lay out some phonological theory to explain how the exceptions to the fricative shift may manifest. Additionally, I use translanguaging as a framework to explain some of the interesting speaker occurrences and the decision path of speakers in their speech production.

5. Discussion

This section begins with discussing how the Chángshāhuà fricative shift may be viewed as a conditioned, non-phonemic sound change from Middle Chinese, which I use as my underlying representation. Next, I introduce my theory that accounts for different surface forms in Chángshāhuà, including nearly all the exceptions I noted previously. Lastly, I explore how a translanguaging framework explains my results and the interesting speaker occurrences.

5.1 Conditioned sound change

As established above, the fricative shift seems to be restricted to occurring for a certain range of words. Sound changes can be broken down into two categories: conditioned and unconditioned (Campbell, 2013). Sound changes that happen anywhere where the particular sound occurs are unconditioned while sound changes that happen only in certain environments and are dependent on other factors are conditioned (Campbell, 2013). Conditioned sound changes also occur more frequently than unconditioned ones (Millar & Trask, 2015). Sound changes may also be broken down into phonemic changes and non-phonemic changes. (Campbell, 2013). Phonemic changes are those that add or delete the number of phonemes in a variety's phoneme inventory while non-phonemic changes do not change the variety's phoneme inventory (Campbell, 2013).

I approach my analysis from a diachronic point of view. When looking at Pǔtōnghuà and Chángshāhuà, it would be incorrect to assume that one or the other is the underlying form. While they are relatives, it is not the case that Chángshāhuà was derived from Pǔtōnghuà nor vice versa. Even if I assume either the Chángshāhuà or Pǔtōnghuà form is the underlying representation, there is no way a rule could be created to account for words with the same underlying representation surfacing differently. For example, it is tough to explain why 欢 huān 'pleased' surfaces as [xon] and why 还 huán 'to return' surfaces as [fan] if both have the same underlying representation. As a result, I turned to their common ancestor, Middle Chinese, as the underlying form and focused on the syllable onsets in the Middle Chinese reconstructions[10] (Baxter & Sagart, 2014). Setting aside the exceptions for now, the findings indicate that my hypothesis holds true: whenever /x/ or /h/ is followed by solely a /u/ (and optionally any tone indications) or a labiovelar /w/ in the Middle Chinese reconstruction, the fricative shift will occur in Chángshāhuà[11]. I propose the following two rules to account for the fricative shift:

(5) *x, *h → f / *#_u#
(6) *x, *h → f / *#_w

Rule (5) is needed to account for the 'hu' word group which do all end up undergoing the shift in Chángshāhuà. The rest of the fricative shifts are accounted for by Rule (6). Note that these rules functionally act the same as Yan's (2006) rule with the only difference being that this is accounting for my transcription of the medial as both /u/ and /w/. It is clear that the fricative shift that is occurring in Chángshāhuà is best categorized as a conditioned, non-phonemic sound change. The shift is conditioned because it may only occur when the syllable onset of the word's Middle Chinese reconstruction is a voiceless velar or glottal fricative followed by either just a high back unrounded vowel or a labiovelar. Given that the shift does not occur merely wherever [x] appears, it is conditioned. The shift is also non-phonemic because it is not contributing to the

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[10] Baxter & Sagart (2014) did not have a Middle Chinese reconstruction for six of my tested words. Out of those six, one was predicted to shift and did shift, and five were predicted to not shift and did not shift.

[11] In this thesis, I use Baxter & Sagart (2014) who have reconstructed in Middle Chinese what surfaces as [x-] today in Chángshāhuà and Pǔtōnghuà (and thus, as 'hu-' in pīnyīn) as /x-/ and /h-/.

phonemic inventory of Chángshāhuà nor Pǔtōnghuà. Both [x-] and [f-] already exist within both phoneme inventories (refer back to Section 2.2 and 2.3), it is merely a matter of where they shift.

     Note that Rule (5) also restricts the environment of the fricative shift to only the high back rounded vowel /u/. When looking at the Middle Chinese reconstructions of the words I had tested, both the 'hong' word group and the 'hou' word group have onsets of /xu-/ and /hu-/ but do not shift (refer to Table 19). This is unsurprising to some extent as I did not predict either of these word groups to shift anyways given that they do not have a pīnyīn of 'hu-' nor do they surface as [xw-] in Pǔtōnghuà. Nevertheless, this is still an important fact to take note of as it narrows down the environment in which the fricative shift may occur. In the table below, 'X' and 'H' in the Middle Chinese reconstruction indicate their tones (Baxter & Sagart, 2014).

Simplified Chinese	Pīnyīn	Gloss	Middle Chinese reconstruction (Baxter & Sagart, 2014)	CHA IPA
烘	*hōng*	'to dry'	xuwng	xən
红	*hóng*	'red'	huwng	xən
哄	*hǒng*	'to persuade'	huwngH	xən
猴	*hóu*	'monkey'	huw	xoʊ
吼	*hǒu*	'to roar'	xuwX	xoʊ
后	*hòu*	'after'	huwX	xoʊ

Table 19: 'hong' and 'hou' word group

     Despite the fact that their Middle Chinese reconstructions contain a fricative (/x/ or /h/), a high back rounded vowel /u/, and a glide /w/, none of these words shift. It is clear that the order that these phonemes appear matter, that is, in order for the glide to trigger the fricative shift, it must appear immediately following the initial fricative. It is also clear that the fricative shift is only triggered if the high back rounded vowel /u/ is the only phoneme to follow the initial fricative. In other words, if /u/ were to trigger the fricative shift, there must be no coda following /u/, hence Rule (5).

5.2 Theory proposal

     Going back to Yan's (2006) rule, her rule does not explain why the 'huo' word group does not undergo the fricative shift despite having the environment to do so, and in fact, Yan's rule argues that they should. While I have tentatively proposed two new rules in the previous section, my rules also do not address the exceptions I outlined in Section 4.2. How may these exceptions then be accounted for and explained? An easy first step would simply be to say that

the loanwords from Pǔtōnghuà will not follow the same rule that Chángshāhuà has followed from Middle Chinese since they were incorporated at a later date. This solves for 缓 *huǎn* 'slow', 换 *huàn* 'exchange', 猾 *húa* 'sly', 豁 *huō* 'stubborn', and 惑 *huò* 'confused'. However, this still leaves 欢 *huān* 'pleased', 活 *huó* 'alive', 伙 *huǒ* 'partner', 火 *huǒ* 'fire', and 货 *huò* 'goods'. It seems that looking only at the Middle Chinese reconstruction is not sufficient and that I must also consider the current Chángshāhuà pronunciations of these words.

In doing so, something interesting becomes apparent. The modern day pronunciations of those non-loanword exceptions all have a rounded, mid back vowel [o]. 欢 *huān* 'pleased' is pronounced like [xon], and 活 *huó* 'alive', 伙 *huǒ* 'partner', 火 *huǒ* 'fire', and 货 *huò* 'goods' are pronounced like [xo]. However, their Middle Chinese reconstruction all have /a/ as the main vowel. These words, along with their pīnyīn, gloss, Middle Chinese reconstruction, and Chángshāhuà IPA, are summarized in the table below. 'X' and 'H' in the Middle Chinese reconstruction indicate their tones (Baxter & Sagart, 2014).

Simplified Chinese	Pīnyīn	Gloss	Middle Chinese reconstruction (Baxter & Sagart, 2014)	CHA IPA
欢	*huān*	'pleased'	xwan	xon
活	*huó*	'alive'	hwat	xo
伙	*huǒ*	'partner'	hwaX	xo
火	*huǒ*	'fire'	xwaX	xo
货	*huò*	'goods'	xwaH	xo

Table 20: Non-loanword exceptions

Evidently, when the fricative shift does not occur for the non-loanword exceptions, the main vowel has shifted from an unrounded, front vowel /a/ to being a rounded, back vowel [o]. Another notable observation from the results is that Chángshāhuà does not allow onset clusters. Any word with a Middle Chinese reconstruction of /xw-/ or /hw-/ is reduced to [x-] (or [f-] in the event the shift does occur) in the current pronunciation.

With this in mind, I return to the structure of a monosyllable in Chinese. The monosyllable contains an initial (consonant syllable onset) and a final (medial, main vowel, ending) (Ramsey, 1987). For my purposes here, the medial is the glide [w], and so the structure of the monosyllable may be seen as being CGVX (Duanmu, 2007). I am positing that the glide in Middle Chinese may affect either the prior consonant or the following vowel. If the glide influences the prior consonant, then what happened in Old English to Middle English, that is, the misperception of [xʷ] that led [x] to shift to [f] (Ringe & Eska, 2013), may be at play here with Middle Chinese to Chángshāhuà. Alternatively, if I were to take on Lauttamus' (1981)

framework, that is, if it is the vowel that is labialized instead, flipping his rule for a syllable-initial fricative (as opposed a syllable-final fricative) would be as follows:

(7) $*x \rightarrow f \: / \: *\#\_[V_{+lab}]$

However, I prefer Ringe & Eska's (2013) framework as the Middle Chinese reconstruction shows that there is a glide between the fricative and the main vowel. Moreover, this explains the difference in vowels in the Chángshāhuà pronunciation. If the glide influences the previous fricative, the labialization is applied to the fricative in Middle Chinese such that it becomes /xʷ/ or /hʷ/ and shifts to [f] in Chángshāhuà. If the glide influences the following vowel, the labialization is applied to the vowel and the vowel adopts rounding in Chángshāhuà. In the case of the non-loanword exceptions, if the glide influences the following vowel, then the Middle Chinese unrounded, front vowel /a/ becomes a Chángshāhuà rounded, back vowel [o] while the fricative becomes [x] in Chángshāhuà. Of note is the fact that /a/ does not simply become rounded, that is, /a/ does not surface as [œ]. This is likely due to the fact that [œ] is not within the phoneme inventory of Chángshāhuà (refer back to Table 11, Table 13, and Fig. 5). Rather than developing a new phoneme, /a/ instead surfaces as the nearest rounded vowel of [o]. To help illustrate this point, please see the following examples of sound changes from Middle Chinese > Changshahua words:

(8) 荒 *huāng* 'barren': MC /xwang/ > CHA [fan]
(9) 欢 *huān* 'pleased': MC /xwan/ > CHA [xon]

In the case of (8), the glide influences the previous consonant and so the voiceless velar fricative /x/ surfaces as a voiceless labiodental fricative [f] in Chángshāhuà. In the case of (9), the glide influences the following vowel and so the unrounded front vowel /a/ surfaces as a rounded back vowel [o]. This framework works to explain why the 'huo' word group avoids the fricative shift as for them, the glide influences the following vowel. But what about the 'hu' word group whose Middle Chinese reconstruction does not have a glide? Why then does the 'hu' word group still shift? The results for the 'hu' word group are shown below. Again, the 'X' and 'H' in the Middle Chinese reconstruction indicate their tones (Baxter & Sagart, 2014).

Simplified Chinese	Pīnyīn	Gloss	Middle Chinese reconstruction (Baxter & Sagart, 2014)	CHA IPA
呼	*hū*	'breath'	xu	fu
湖	*hú*	'lake'	hu	fu
胡	*hú*	'beard'	hu	fu
虎	*hǔ*	'tiger'	xuX	fu
护	*hù*	'to protect'	huH	fu

Table 21: 'hu' word group

There are two possible answers to this: first, there may be some labialization not accounted for in the reconstruction that my proposed framework then applies to, that is, perhaps the reconstruction is not accounting for a glide between the fricative and the back vowel. Second, the Middle Chinese reconstruction of the 'hu' group shows that none of the words have a coda. Rather, their underlying form is merely /xu/ or /hu/ (with an optional tone), and thus, their syllable structure is merely CV. Since /u/ is a rounded back vowel, I argue that the labialized vowel is taking the place of the glide and is influencing the previous fricative. As a result, [fu] becomes the surface form for the 'hu' word group.

In fact, nearly all of the loanwords that I previously set aside and attributed to being incorporated after the initial sound change occurred may be accounted for as well. Below is a summary of the loanword exceptions.

Simplified Chinese	Pīnyīn	Gloss	Middle Chinese reconstruction (Baxter & Sagart, 2014)	CHA IPA
猾	*húa*	'sly'	hweat	xwɑ
缓	*huǎn*	'slow'	hwanX	xon
换	*huàn*	'exchange'	hwanH	xon
豁	*huō*	'stubborn'	xwat	xo
货	*huò*	'confused'	hwok	xo

Table 22: Loanword exceptions

Evidently, for 缓 *huǎn* 'slow', 换 *huàn* 'exchange', and 豁 *huō* 'stubborn', the framework I have proposed above still applies. The glide in the Middle Chinese reconstruction for these words is rounding the following vowel /a/, leading it to surface as [o]. There are two words which I would like to further discuss: 猾 *húa* 'sly' and 货 *huò* 'confused'. 猾 *húa* 'sly' surfaces as [xwa] in Chángshāhuà which indicates that the glide is affecting neither the previous fricative nor the following vowel. However, it should be noted that according to my speakers, this word is not used in Chángshāhuà. This is bolstered by the fact that it maintains its onset cluster in Chángshāhuà, despite Chángshāhuà not liking onset clusters. It seems likely and reasonable then that speakers defaulted to their Pǔtōnghuà pronunciation as a result. Regarding 货 *huò* 'confused', this word has a reconstruction with a main vowel of /o/ as opposed to /a/ like the others. There are two possible analyses: first, since this is a loanword, it may be that its Chángshāhuà pronunciation is simply getting rid of the onset cluster and the coda and surfacing as [xo]. Second, an alternative approach is that my prior analysis still applies, that is, the glide is still influencing the following vowel and since /o/ is already rounded, it still surfaces as [o] and the fricative remains as [x] instead of being labiodentalized.

The final question to address then in terms of the theory is a question of whether or not this is an active, ongoing sound change. My data set consisted of five speakers, so it may be that for the words I have identified as exceptions, there are speakers shifting the fricative and that it is merely my speakers that do not. Moreover, the fact that some speakers shift the fricative of some words with the minimal environment that others do not or even the fact that speakers are alternating between shifting the fricative for the same word is evidence that this may be an ongoing sound change. Revisiting Section 4.2, I mentioned that Speaker E had pronounced 缓 *huǎn* 'slow' as [fan] whereas other speakers pronounced it as [xon] and that Speaker E found both pronunciations acceptable while others did not. Coupled with the fact that Speaker E was the youngest speaker, this may be suggestive of this being an ongoing sound change where speakers are even shifting the fricatives of loanwords.

5.3 Translanguaging

The results indicate that there are more than just phonological factors at play. First, different phrases may be used in place of words that are shown in the passage. Such was the case with 细伢子 *xì yá zi* being used by Speaker E for 'children' rather than the 孩子 *hái zi* that was written and with 姆妈 *mǔmā* being used by Speaker A for 'mother' rather than the 妈妈 *māmā* that was written. Second, from the Chángshāhuà words that have a Simplified Chinese form but are pronounced in a different manner, it can be seen that speakers are also selecting which pronunciation to use, such was the case with 蛤 *há* 'toad'. Put another way, the pronunciation of the word extends beyond just the fricative shift I am exploring in this thesis. Third, the speakers are deciding what tone to use. In the 混 *hùn* 'dawdle' example, the speakers who do not shift retain the tone of Pǔtōnghuà equivalent. In the 话 *huà* 'language' example, the speakers who do not shift use the same tone of the Chángshāhuà speakers who do shift.

It is important to keep in mind that the distinction between Chángshāhuà and Pǔtōnghuà may also not be clear-cut. As noted by Norman (1988), the Xiāng dialect group and the Mandarin dialect group have a weak boundary between them due to centuries of language contact between the two groups. In addition, Ramsey (1987) comments that the Xiāng dialect group is in a transition period as they are being affected by Mandarin dialects from the north while they retain older Southernisms. While the two varieties have a clear overlap, there are still variety-specific words and phrases. The same lexeme may have different pronunciations in Chángshāhuà and Pǔtōnghuà. Words and phrases in one variety may use lexemes in conjunction that would not make sense in the other variety. There are many Chángshāhuà-specific words that do not have a grapheme. However, it ultimately seems that this perspective of Chángshāhuà and Pǔtōnghuà does not align well with the framework of code-switching as it is difficult to clearly distinguish two separate linguistic systems.

That being said, these five instances outlined above are best analyzed under the framework of translanguaging instead. It is clear that when reading the passage, the speakers are making numerous linguistic decisions at once to convey the meaning they want to express. First, they are deciding which lexemes to use (while there are certain specific Chángshāhuà words and Pǔtōnghuà words, these categories cannot be cleanly separated). Second, they are determining which pronunciation (segment) to use, the Chángshāhuà or the Pǔtōnghuà one. Third, they are deciding which tones to use, the Chángshāhuà or the Pǔtōnghuà one. This is summarized in the decision tree below. One note is that the decision tree shown is for a word with two usable lexemes of which each have two pronunciations and each pronunciation has two tones. The number of branches may increase or decrease depending on the number of usable lexemes, segments, and tones.

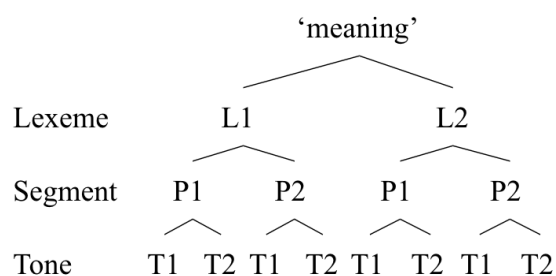|		'meaning'		
Lexeme		L1	L2	
Segment	P1	P2	P1	P2
Tone	T1 T2	T1 T2	T1 T2	T1 T2

Figure 23: Decision tree

Theoretically, for the tree above then, there are eight possible pronunciations. However, external factors may limit which branches exist. It may also be the case that there are fewer branches. In the case of 混 *hùn* 'dawdle', there is only one branch from the meaning to the lexeme as that is a word that is used in both Chángshāhuà and Pǔtōnghuà. From that lexeme, speakers have two choices. They may either choose to shift the fricative and use a Chángshāhuà pronunciation of [fən] or they may choose to not shift the fricative and use a Pǔtōnghuà pronunciation of [xwən]. After deciding which pronunciation to use, speakers then have two

more choices regarding what tone to use. They may choose to use the Chángshāhuà tone for 混 of Tone 5 or the Pǔtōnghuà tone for 混 of Tone 4. Ultimately, speakers have four ways of expressing 'dawdle' to choose from. Below are diagrams showing the two paths chosen by my speakers in pronouncing 混 *hùn* 'dawdle' (as discussed previously in Section 4.1).
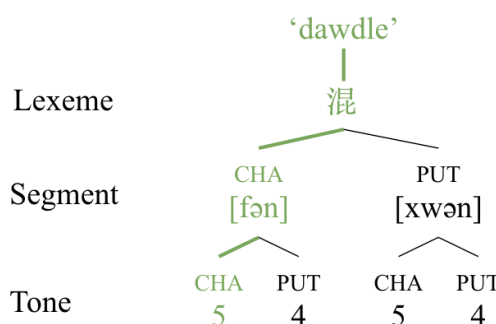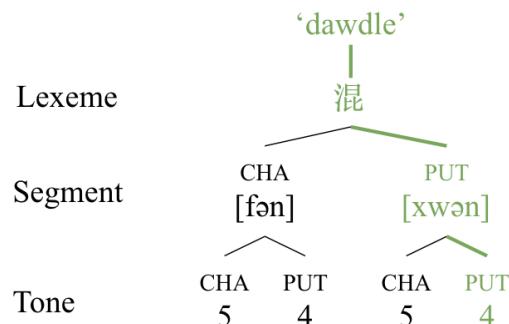
Figure 24: Speakers A, D, and E

Figure 25: Speakers B and C

For 混 *hùn* 'dawdle', the speakers are using the same tone as the pronunciation they choose to use. However, as seen previously, this does not need to be the case. Below are the diagrams showing the paths for 话 *huà* 'language'. In the case of 话 *huà* 'language', Speakers B and C chose the Pǔtōnghuà pronunciation but the Chángshāhuà tone. Evidently, the speakers here are using their full linguistic repertoire by constructing their utterance based on the lexeme, segment, and tone they would like to use.
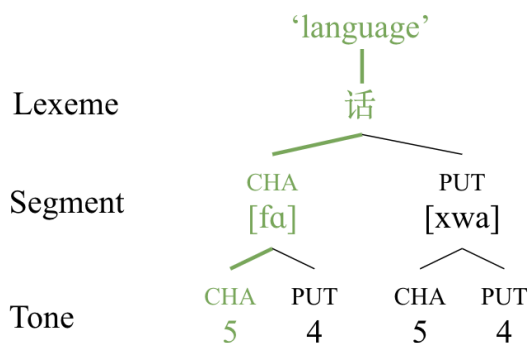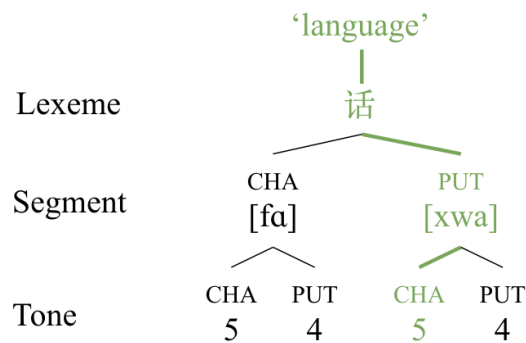
Figure 26: Speakers A, D, and E

Figure 27: Speakers B and C

It would be difficult to explain these variants under a framework of code-mixing, given that the speakers very clearly stated they knew the difference between the two varieties. But again, as mentioned before, the separation between Chángshāhuà and Pǔtōnghuà is not so clear-cut due to language contact and a shared orthography, so code-switching may not be the most appropriate lens as well. On the other hand, a translanguaging perspective is able to account for all these observations. Usage of both varieties is a common occurrence in everyday life as outlined by Speaker E. They explained that as the population of Chángshā grows and the influx

of people increases, there are fewer people who understand and speak Chángshāhuà. Speaker E elaborates by saying more and more children are unable to communicate in Chángshāhuà anymore as well, so they may default to Pǔtōnghuà when speaking to younger people.

Particularly pertinent is Speaker E's comment that sometimes one variety expresses their ideas in a better manner. This demonstrates that Chángshāhuà and Pǔtōnghuà are interwoven in their minds and are used for different purposes. By using both varieties and selecting what traits they would like to take on from each, speakers are accessing their entire linguistic repertoire in such a way that best expresses their thoughts. Moreover, some of their utterances are neither distinctly from Chángshāhuà nor are they from Pǔtōnghuà. A code-switching framework here would argue that the speakers are switching between the two named varieties. However, as seen in Figure 27, Speakers B and C produced an utterance that had a Pǔtōnghuà pronunciation but Chángshāhuà tone. This utterance cannot be cleanly categorized as being from one variety nor the other, and rather, it would be more appropriate to say that the speakers are drawing from their linguistic repertoire for what they feel best expresses themself.

A translanguaging framework also explains the interesting speaker occurrences that were observed in Section 4.3. Recall that for their Chángshāhuà reading, the speakers all agree that they tend to default to the Pǔtōnghuà pronunciation when they see a word they do not know. To solve for a word they are not familiar with in Chángshāhuà, the speakers are reaching into their linguistic inventory and using Pǔtōnghuà as a solution. When Speaker A substituted in the Chángshāhuà phrase 姆妈 *mǔmā* for 'mother' as opposed to 妈妈 *māmā*, they felt as if 姆妈 *mǔmā* was more representative of a Chángshāhuà reading than 妈妈 *māmā*. In a similar vein, when Speaker E substituted in the Chángshāhuà phrase 细伢子 *xì yá zi* for 'children' as opposed to the Pǔtōnghuà phrase 孩子 *hái zi* 'children' during their Chángshāhuà reading, they are engaging multiple discursive practices to best express 'children' in Chángshāhuà at that point in time. Other speakers who used 孩子 *hái zi* 'children', a Pǔtōnghuà lexeme, with a Chángshāhuà tone believed that that utterance best expressed 'children' at that point in time. The decision paths for the speakers may be seen below:
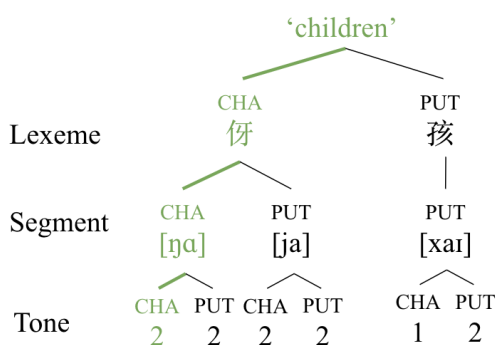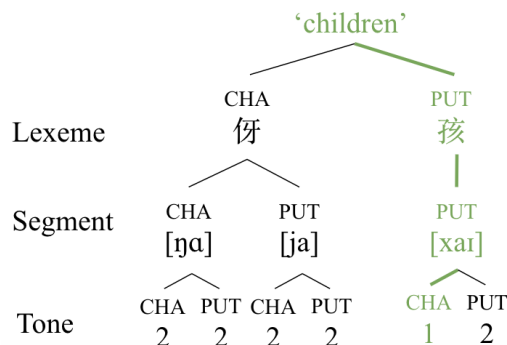

Figure 28: Speaker E   Figure 29: Speakers A, B, C, and D

Since 孩子 *hái zi* 'children' is not a Chángshāhuà word, there is no Chángshāhuà pronunciation. As a result, the speakers that read 孩子 *hái zi* 'children' defaulted to the

Pǔtōnghuà pronunciation. However, I determined that the speakers were still using a different tone in their Chángshāhuà and Pǔtōnghuà pronunciations by examining the difference between starting and ending pitch of the same token of 孩 *hái* across both readings for each speaker. The pitches are summed in the table below.

Speaker	CHA starting pitch (Hz)	CHA ending pitch (Hz)	Difference (Hz) (ending - starting)	PUT starting pitch (Hz)	PUT ending pitch (Hz)	Difference (Hz) (ending - starting)
A	106.4	122.7	16.3	101.2	178.5	77.3
B	76.1	78.7	2.6	89.2	99.7	10.5
C	183.5	195.3	11.8	195.7	256.3	60.6
D	160.8	179.0	18.2	145.4	254.2	108.8

Table 23: 孩 *hái* 'children'

Evidently, there is some variation in the starting and ending pitch of the token. Sometimes the starting pitch of Chángshāhuà is lower than that of Pǔtōnghuà (Speakers B and D), and sometimes the starting pitch of Chángshāhuà is higher than that of Pǔtōnghuà (Speakers A and C). Regardless, the starting pitches tend to be more or less near the same Hz for both readings. The same cannot be said of the ending pitches. It is clear that there is a considerably smaller gap between the starting and ending pitches of the Chángshāhuà token than that of the Pǔtōnghuà token. The ending pitches of the Pǔtōnghuà token are much higher than the ending pitches of the Chángshāhuà token. The only note is that Speaker B does have a much smaller difference between their two tokens (only 7.9 Hz) compared to the others, but they did also tend to speak with much less pitch variability throughout both readings than the others. Alternatively, it may be argued that Speaker D is just using a Chángshāhuà tone in their Pǔtōnghuà pronunciation given that the Pǔtōnghuà tone here seems to have a larger range. Nevertheless, this indicates that though these speakers are using the Pǔtōnghuà pronunciation, they are applying a different tone in Chángshāhuà than the tone they use in Pǔtōnghuà, even if the word is not used in Chángshāhuà. The decision tree indicates again that speakers are selecting from their linguistic inventory the features they want to use in their utterance.

It is important to also acknowledge that the written forms may have impacted the speakers' choice of lexeme to read as Chángshāhuà does not have a separate orthography and even has words that do not have a written form. Put another way, though 孩子 *hái zi* 'children' is not used in Chángshāhuà, since it was written in the passage as such, it may have been easier for Speakers A, B, C, and D to read from the passage as is versus extracting the Chángshāhuà lexeme from their linguistic inventory. There may be an implicit association with Pǔtōnghuà which impacts what pronunciation speakers opt for. However, realizing this, the speakers may

have also applied a "more Chángshāhuà" tone to still indicate that their utterance is during a Chángshāhuà reading.

As for Speaker D using Pǔtōnghuà for some dialogue in their Chángshāhuà reading, this once more demonstrates Speaker D pulling from their linguistic repertoire and using different features to distinguish between different characters involved in the conversation. Additionally, it may have also been used to emphasize that the story had moved on from a narration to a dialogue. Speaker D uses their multilingual abilities to help separate the dialogue from the narrative. A translanguaging framework would say this is Speaker D using their skills to convey the story in a way that makes the most sense to them.

In general (but not universally), speakers tended to align their lexeme, pronunciation, and tone decisions with the variety they were reading in. That is to say, for the Pǔtōnghuà readings, the speakers tended to choose Pǔtōnghuà lexemes, Pǔtōnghuà pronunciations, and Pǔtōnghuà tones. Again, for the Chángshāhuà readings, the speakers chose either the Pǔtōnghuà lexemes (as that was what was written) or the Chángshāhuà lexemes. Regardless of lexeme choice though, speakers did tend to use Chángshāhuà pronunciations where applicable and Chángshāhuà tones. While this thesis has focused on how Chángshāhuà has been impacted by Pǔtōnghuà, I want to reiterate that Pǔtōnghuà has also been impacted by Chángshāhuà. In fact, the claim of Chángshāhuà speakers having 塑料普通话 *sùliào Pǔtōnghuà* 'plastic Pǔtōnghuà' arises due to the Chángshā accent when speaking Pǔtōnghuà. Part of the accent may be due to the fricative shift manifesting in Pǔtōnghuà as shown in my results, and so the fricative shift may contribute to the perception of Chángshāhuà as being "non-standard".

6. Conclusion

In this thesis, I explored the labiodentalization of the voiceless velar fricative in Chángshāhuà. Using arguments regarding the cause for the same shift (just word-finally) in English and a proposed rule by Yan (2006), I hypothesized that Pǔtōnghuà syllables that begin with a voiceless velar fricative [x-] followed by a semivowel [w] (and consequently its allophonic counterpart [u]) will surface as a voiceless labiodental fricative [f-] in Chángshāhuà. I tested this hypothesis by conducting a series of semi-structured interviews with five native Chángshāhuà speakers. In the interviews, I collected data on the pronunciations of various [x-] syllable-initial tokens by having them read a passage in both Chángshāhuà and Pǔtōnghuà. I then followed up afterwards with questions I had regarding any interesting patterns I noticed.

After analyzing my tokens on Praat, I found that speakers shifted the fricative in both Chángshāhuà and Pǔtōnghuà, but much less frequently so in Pǔtōnghuà and only words that they had also shifted in Chángshāhuà. Also, it is true that when [x-] is followed by [u] or [w] in Pǔtōnghuà, the same word is able to surface with [f-] in Chángshāhuà, but this is not obligatory as speakers had varying frequencies of shifts. In fact, some speakers would even shift the fricative in one instance and not shift the fricative in another instance of the same token. However, some of the words that I predicted would shift were not shifted by any of the speakers. These exceptions were 猾 *húa* 'sly', words within the 'huan' word group, and the entire 'huo'

word group. While loanwords accounted for some of the words that failed to shift, the 'huo' word group remained as an exception. In addition to these exceptions, some interesting speaker occurrences were observed as well, including speakers selecting different words to say and using different varieties when reading dialogue.

　　Using Baxter & Sagart's (2014) Middle Chinese reconstructions as the underlying form of Chángshāhuà, I propose that the fricative shift may be accounted for by the glide in the Middle Chinese reconstruction influencing either the prior fricative (which was /x/ or /h/) or the following vowel. If the glide influences the prior fricative, then /xw-/ and /hw-/ surface as [f-] in Chángshāhuà. If the glide influences the following vowel, then the vowel adopts the rounding feature while the fricative remains the same. In the case of the 'hu' word group whose Middle Chinese reconstruction has no glide, the voiceless velar fricative is still labiodentalized. This may be explained by the rounding feature on the /u/ transferring to the fricative as there is no following vowel to influence. This theory accounts for nearly the entirety of my dataset, including the loanwords. The one exception is 猾 _húa_ 'sly' which surfaces as [xwa] in Chángshāhuà, but this may simply be explained due to it being a loanword that is never used in Chángshāhuà and so speakers defaulted to their Pǔtōnghuà pronunciation. As a result, this fricative shift may be categorized as a conditioned, non-phonemic sound change given that it may only occur either before a glide /w/ or solely /u/ and does not change the phoneme inventory of either Chángshāhuà or Pǔtōnghuà.

　　I also observed that speakers are making three decisions when reading the passage: which lexeme, pronunciation, and tone to use. I argue that this, along with the interesting speaker occurrences I observed, is best analyzed under the framework of translanguaging. Using a decision tree, I showed how the speakers were using their linguistic repertoire in selecting what features they would like their token to have in order to best convey the meaning they have in mind. I posit that a code-switching framework is not applicable here as they are producing tokens which cannot be said to belong distinctively to one variety, such as a Chángshāhuà pronunciation with a Pǔtōnghuà tone, and are better viewed under translanguaging.

　　In the future, additional research may surround what decides which phoneme the glide affects, the vowel or the consonant. From my data, it is not immediately clear why the labialization will apply to a vowel instead of the consonant. It would also be helpful to hold more interviews with Chángshāhuà speakers to determine if this is an ongoing sound change. From my interviews, it seems that it may be ongoing given that one speaker has found the fricative shift in a loanword to be acceptable (despite the disagreement of others). It may be worth exploring whether or not a difference in age affects the acceptability of this fricative shift as well. Another interesting note is that despite 孩 _hái_ 'children' not being used in Chángshāhuà, all speakers still applied the same Chángshāhuà tone to their utterance. Future avenues worth pursuing may be verifying whether or not speakers use the same tone for loanwords and how tone may be predicted. Lastly, future research may be done with other dialects to see if similar results occur. Yan (2006) notes that the labiodentalization of velar fricatives occurs in other New Xiāng dialects, such as Héngyáng; Wú dialects like Wēnzhōu; and also some Southwestern Mandarin

dialects, such as Chéngdū and Chóngqìng. Conducting similar studies on such dialects will be helpful in testing the validity of my proposed framework.

7. Appendix

7.1 Interview questions and passage

      Note that interviews were semistructured. The first interview contained six demographic background questions and two readings of the Little Monkey passage. The second interview consisted of various follow-up questions such as the speakers' thoughts on loanwords, dialect differentiation, and translanguaging. All speakers were asked the following questions in the same order:

1. What is your age?
2. Where were you born?
3. Where were you raised?
4. How familiar are you with reading Simplified Chinese?
5. How familiar are you with Standard Chinese (Pǔtōnghuà)?
6. How familiar are you with Chángshāhuà?

7.2 Highlighted passage in Simplified Chinese, pīnyīn, and English translation

      Below is the Little Monkey passage with all [x-] initial syllables in Pǔtōnghuà highlighted in blue. Note that while I tested 59 words, there are more that are highlighted as words may be repeated, and all instances are highlighted. The first paragraph is in Simplified Chinese, the second is in pīnyīn, and the third is the English translation.

<div align="center">小猴子下山</div>

一只小猴子从出生就生活在森林里，它不想就这么混日子的活着，想去看看外面的世界。猴妈妈又是哄劝又是恐吓地想改变它的主意。小猴子不听妈妈的话，决心豁出去，终于在一天早上偷偷的溜下山了。它开心的大喊："我终于下山了!" 经过了一片繁华的蒿草花的荒山时，发现一群耗子的痕迹，小猴子含笑地大吼一声 "你们好呀？" 小耗子们很害怕地一哄而散。小猴子哈哈大笑地说 "我不是坏人，又不会吃你们的。" 已经快到中午了，此时的太阳红通通的挂在天上，小猴子走得浑身大汗，它发现前面有一个湖，十分欢喜地跳进湖里洗了澡喝了水，看到一只蛤蟆在身边一晃而过，就友好的问："咳，游这么快干嘛去呀？" "我要游到大海去看看，想让我的孩子换一个生活环境。" 小猴子怀疑地问 "去大海？" 蛤蟆说 "是的，我相信只要我不停的游，肯定会到的。" "祝你成功!" 小猴子爬上岸，晒着太阳来烘干了身上的每一根毫毛，慢慢地它就昏昏沉沉地打起鼾来。突然，小猴子被一只黑色哈巴狗的呼喊声叫醒了，它困惑地睁开眼睛，原来，不远处有一只老虎 正缓缓地朝它们走来，连老虎的胡须都数得清楚！小猴子抱着哈巴狗赶紧爬上了一颗大树。 老虎狡猾的说："我是山大王，是来保护你们的！" "你说谎！" 小猴子摘下树上的黄色果子砸向老虎，老虎被砸得嗷嗷大叫，又没有办法还手。它又恨又悔自己为什么没有向猫学会爬树！真是早知如此何必当初！后来，老虎只好灰溜溜地走了。天渐渐的黑了，小猴子回到了山上，小伙伴们马上去告诉了猴妈妈，猴妈妈十分高兴地抱住了小猴子！

Xiǎo hóuzi xiàshān

Yī zhǐ xiǎo hóuzi cóng chūshēng jiù shēnghuó zài sēnlín lǐ, tā bùxiǎng jiù zhème hùn rìzi de huózhe, xiǎng qù kàn kàn wàimiàn de shìjiè. Hóu māmā yòu shì hǒng quàn yòu shì kǒnghè de xiǎng gǎibiàn tā de zhǔyì. Xiǎo hóuzi bù tīng māmā dehuà, juéxīn huōchuqù, zhōngyú zài yītiān zǎoshang tōutōu de liū xiàshānle. Tā kāixīn de dà hǎn: "Wǒ zhōngyú xiàshānle!" Jīngguòle yīpiàn fánhuá de hāo cǎohuā de huāngshān shí, fāxiàn yīqún hàozi de hénjī, xiǎo hóuzi hánxiào dì dà hǒu yīshēng "nǐmen hǎo ya?" Xiǎo hàozimen hěn hàipà dì yī hǒng ér sàn. Xiǎo hóuzi hāhā dà xiào de shuō "wǒ bùshì huàirén, yòu bù huì chī nǐmen de." Yǐjīng kuài dào zhōngwǔle, cǐ shí de tàiyáng hóng tōngtōng de guà zài tiānshàng, xiǎo hóuzi zǒu dé húnshēn dà hàn, tā fāxiàn qiánmiàn yǒuyīgè hú, shífēn huānxǐ dì tiào jìn hú lǐ xǐle zǎo hēle shuǐ, kàn dào yī zhǐ hámá zài shēnbiān yīhuàng érguò, jiù yǒuhǎo de wèn: "Hāi, yóu zhème kuài gān ma qù ya?" "Wǒ yào yóu dào dàhǎi qù kàn kàn, xiǎng ràng wǒ de háizi huàn yīgè shēnghuó huánjìng." Xiǎo hóuzi huáiyí de wèn "qù dàhǎi?" Hámá shuō "shì de, wǒ xiāngxìn zhǐyào wǒ bù tíng de yóu, kěndìng huì dào de." "Zhù nǐ chénggōng!" Xiǎo hóuzi pá shàng'àn, shàizhe tàiyáng lái hōng gān le shēnshang de měi yī gēn háomáo, màn man de tā jiù hūn hūn chénchén de dǎ qǐ hān lái. Túrán, xiǎo hóuzi bèi yī zhǐ hēisè hǎbāgǒu de hūhǎn shēng jiào xǐngle, tā kùnhuò de zhēng kāi yǎnjīng, yuánlái, bù yuǎn chù yǒu yī zhǐ lǎohǔ zhèng huǎn huǎn de cháo tāmen zǒu lái, lián lǎohǔ de húxū dōu shǔ dé qīngchǔ! Xiǎo hóuzi bàozhe hǎbāgǒu gǎnjǐn pá shàngle yī kē dà shù. Lǎohǔ jiǎohuá de shuō: "Wǒ shì shān dàwáng, shì lái bǎohù nǐmen de!" "Nǐ shuōhuǎng!" Xiǎo hóuzi zhāi xià shù shàng de huángsè guǒzi zá xiàng lǎohǔ, lǎohǔ bèi zá dé áo'áo dà jiào, yòu méiyǒu bànfǎ huánshǒu. Tā yòu hèn yòu huǐ zìjǐ wèishéme méiyǒu xiàng māo xuéhuì pá shù! Zhēnshi zǎo zhī rúcǐ hébì dāngchū! Hòulái, lǎohǔ zhǐhǎo huī liūliū de zǒule. Tiān jiànjiàn de hēile, xiǎo hóu zǐ huí dàole shānshàng, xiǎo huǒbànmen mǎshàng qù gàosùle hóu māmā, hóu māmā shí fèn gāoxìng de bào zhùle xiǎo hóuzi!

The Little Monkey Goes Down the Mountain

From the day it was born, a little monkey has always lived in the forest but soon wanted to see the outside world. The little monkey's mother tried to change the little monkey's mind. However, the little monkey did not listen to its mother and decided to leave. One day, the little monkey finally snuck down the mountain. It happily exclaimed: "I'm finally down the mountain!" When walking by a barren mountain with flowers, the little monkey found some mice tracks. It yelled, "Are you okay?" The little mice shouted in fear and ran away. The little monkey laughed out loud and said, "I'm not a bad person. I won't eat you." It was nearing noon, and the sun was glaring in the sky. The little monkey was sweating and discovered a lake ahead. It jumped excitedly into the lake, took a bath, drank the water, and saw a toad by the shore. The little monkey asked the toad, "Hey, why are you swimming so fast?" The toad replied, "I want to swim to the sea to give my kids a different life." The little monkey doubtfully asked, "To the sea?" The toad replied, "Yes. I believe that if I just keep swimming, I will definitely make it." The little monkey said, "Best of luck!" It climbed to the shore and laid down, letting the sun dry its fur and began to snore. Suddenly, the little monkey was awoken by the sound of a black pug

and opened its eyes. It turned out, there was a tiger not too far walking towards them. Even the whiskers on the tiger's beard could be clearly counted! The little monkey carried the pug and quickly climbed on top of a tree. The tiger slyly said, "I am the king of the mountain and am here to protect you!" The little monkey replied, "You're lying!" The little monkey picked the yellow fruit from the tree and pelted the tiger. The tiger howled in pain but had no way of retaliating. The tiger regretted not learning how to climb trees like cats and left in despair. The sky was getting dark, and the little monkey went up the mountain again. Its friends told the little monkey's mother who hugged the little monkey in relief.

8. Bibliography

Bailyn, J. F. (2010). To What Degree Are Croatian and Serbian the Same Language? Evidence from a Translation Study. *Journal of Slavic Linguistics*, *18*(2), 181–219. https://doi.org/10.1353/jsl.2010.0000

Baxter, W. H., & Sagart, L. (2014). *Old Chinese: A new reconstruction*. Oxford University Press.

Bloomfield, L. (1923). *Language* (1st ed.). George Allen & Unwin LTD.

Boberg, C., Nerbonne, J. A., & Watt, D. J. L. (2018). Introduction. In *The Handbook of Dialectology* (pp. 1–15). John Wiley & Sons, Inc.

Campbell, L. (2013). *Historical Linguistics: An Introduction* (Third edition). Edinburgh University Press.

Chambers, J. K., & Trudgill, P. (1998). *Dialectology* (2nd ed.). Cambridge University Press. https://doi.org/10.1017/CBO9780511805103

China. (n.d.). Ethnologue. Retrieved November 10, 2023, from https://www.ethnologue.com/country/CN/

Croddy, E. (2022). Hunan Province. In E. Croddy (Ed.), *China's Provinces and Populations: A Chronological and Geographical Survey* (pp. 383–406). Springer International Publishing. https://doi.org/10.1007/978-3-031-09165-0_16

Cummins, J. (2000). *Language, Power and Pedagogy: Bilingual Children in the Crossfire.* (1st ed.). Clevedon : Multilingual Matters.

Duanmu, S. (2007). *The Phonology of Standard Chinese*. Oxford University Press, Incorporated.

Ferguson, C. (1959). Diglossia. *Word*, *15*(2), 325–340. https://doi.org/10.1080/00437956.1959.11659702

Fishman, J. A. (1967). Bilingualism With and Without Diglossia; Diglossia With and Without Bilingualism. *Journal of Social Issues*, *23*(2), 29–38. https://doi.org/10.1111/j.1540-4560.1967.tb00573.x

Garcia, O. (2009). *Bilingual Education in the 21st Century* (1st ed.). John Wiley & Sons, Incorporated.

Hall, S. M. (2020). 'You're not from 'round 'ere, are you?': Class, accent and dialect as opportunity and obstacle in research encounters. In S. M. Hall & R. Hiteva (Eds.), *Engaging with Policy, Practice and Publics* (1st ed., pp. 41–58). Bristol University Press. https://doi.org/10.2307/j.ctv138wq7f.7

Handel, Z. (2014). Historical Phonology of Chinese. In *The Handbook of Chinese Linguistics* (pp. 576–598). John Wiley & Sons, Incorporated.

Haugen, E. (1953). *The Norwegian language in America: A study in bilingual behavior.* University of Pennsylvania Press.

Hudson, A. (1991). *Studies in diglossia.* University of North Texas Press.

Hudson, A. (2002). *Outline of a theory of diglossia. 2002*(157), 1–48. https://doi.org/10.1515/ijsl.2002.039

Jacobson, R. (1961). *Preliminaries to Speech Analysis: The Distinctive Features and Their Correlates.* MIT Press.

Karlgren, B. (1954). *Compendium of phonetics in ancient and archaic Chinese.* Museum of Far Eastern Antiqties.

Kurpaska, M. (2010). *Chinese Language(s): A Look Through the Prism of the Great Dictionary of Modern Chinese Dialects.* De Gruyter, Inc.

Ladefoged, P. (1982). *A Course in Phonetics* (2nd ed.). Harcourt Brace Jovanovich.

Lauttamus, T. (1981). A NOTE ON THE DEVELOPMENT OF OLD ENGLISH [X] TO MIDDLE ENGLISH [f]. *Neuphilologische Mitteilungen*, *82*(1), 1–4.

Li, C. W.-C. (2014). Shifting Patterns of Chinese Diglossia: Why the Dialects May Be Headed for Extinction. In *Divided Languages? Diglossia, Translation and the Rise of Modernity in Japan, China, and the Slavic World* (pp. 65–86). Springer International Publishing.

Liang, S. (2015). *Language Attitudes and Identities in Multilingual China: A Linguistic Ethnography.* Springer International Publishing. https://doi.org/10.1007/978-3-319-12619-7

Lin, Y.-H. (2007). *The Sounds of Chinese.* Cambridge University Press.

List, J.-M. (2015). Network Perspectives on Chinese Dialect History. *Bulletin of Chinese Linguistics*, *8*(1), 27–47. https://doi.org/10.1163/2405478X-00801002

Millar, R. M., & Trask, R. L. (2015). *Trask's historical linguistics.* (3rd edition / edited by Robert McColl Millar.). Routledge.

Milroy, J. (2012). *Authority in language: Investigating standard English* (Fourth edition.). Routledge. https://doi.org/10.4324/9780203124666

Norman, J. (1988). *Chinese.* Cambridge University Press.

Otheguy, R., García, O., & Reid, W. (2015). Clarifying translanguaging and deconstructing named languages: A perspective from linguistics. *Applied Linguistics Review*, *6*(3), 281–307. https://doi.org/10.1515/applirev-2015-0014

Ramsey, R. (1987). *The Languages of China.* Princeton University Press.

Reetz, H., & Jongman, A. (2009). *Phonetics: Transcription, production, acoustics, and perception.* Blackwell.

Ringe, D., & Eska, J. F. (Eds.). (2013). Sound change. In *Historical Linguistics: Toward a Twenty-First Century Reintegration* (pp. 78–104). Cambridge University Press. https://doi.org/10.1017/CBO9780511980183.007

Roy, J. D. (1987). The linguistic and sociolinguistic position of black English and the issue of

bidialectism in education. In P. Homel, M. Palij, & D. Aaronson (Eds.), *Childhood bilingualism: Aspects of linguistic, cognitive, and social development* (pp. 231–242). L. Erlbaum Associates.

Saussure, F. de. (2011). *Course in general linguistics*. Columbia University Press.

Schulz, G., Halpern, A., Spielman, J., Ramig, L., Panzer, I., Sharpley, A., & Freeman, K. (2021). Single Word Intelligibility of Individuals with Parkinson's Disease in Noise: Pre-Specified Secondary Outcome Variables from a Randomized Control Trial (RCT) Comparing Two Intensive Speech Treatments (LSVT LOUD vs. LSVT ARTIC). *Brain Sciences*, *11*(7), 857. https://doi.org/10.3390/brainsci11070857

Shen, Z. (2020). *A phonological history of Chinese*. University Press.

Su, J. (2014). Diglossia in China: Past and Present. In *Divided Languages? Diglossia, Translation and the Rise of Modernity in Japan, China, and the Slavic World* (pp. 55–64). Springer International Publishing.

Tang, C., & van Heuven, V. J. (2009). Mutual intelligibility of Chinese dialects experimentally tested. *Lingua*, *119*(5), 709–732. https://doi.org/10.1016/j.lingua.2008.10.001

Wiley, T. G. (1995). Language planning and policy. In *Sociolinguistics and Language Teaching* (pp. 103–148). Cambridge University Press. https://doi.org/10.1017/CBO9780511551185

Wiley, T. G., & Lukes, M. (1996). English-Only and Standard English Ideologies in the U.S. *TESOL Quarterly*, *30*(3), 511–535. https://doi.org/10.2307/3587696

Wu, N. (2023). Changsha Xiang Chinese. *Journal of the International Phonetic Association*, 1–15. https://doi.org/10.1017/S0025100323000075

Yan, M. M. (2006). *Introduction to Chinese Dialectology*. LINCOM Europa.

Yu, V. (2010). *Cultural heritage of China at risk with decline of dialects*. South China Morning Post. https://www.scmp.com/article/720449/cultural-heritage-china-risk-decline-dialects

Zhou, Z. (1966). Qiéyun de xingzhi hé tade yinxi jichu. In *Wénxue ji*. Zhonghua shu ju : Xin hua shu dian Beijing fa xing suo fa xing.