

Phonetics of Pangasinan Ilokano*

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Abstract

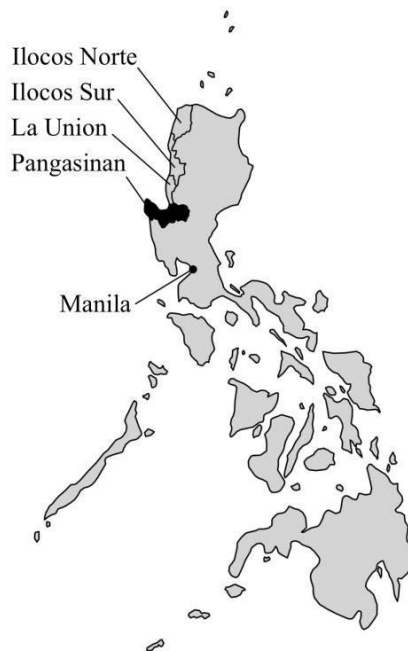
This paper presents a phonetic description of Pangasinan Ilokano, a regional variety of Ilokano, an Austronesian language of the Northern Philippines. Although Ilokano is a major language with more than nine million speakers with a substantial body of literature, little attention has been paid to the Pangasinan variety. This study investigates the phonetic features of Pangasinan Ilokano based on elicitation data. With the help of sound visualization techniques, this study describes how consonants and vowels are pronounced in Pangasinan Ilokano. In addition, it confirms that the front-to-back tongue positions of vowels in Ilokano play a crucial role in classifying the regional varieties of Ilokano, as suggested in the literature. Thus, this study contributes to filling a gap in descriptions of Ilokano.

1. Introduction

Ilokano belongs to the Western Malayo-Polynesian branch of the Austronesian language family and is spoken by nine million people in Luzon, the largest island of the Republic of the Philippines (see Map 1). The Ilokano people are considered to have originated in Ilocos Norte, Ilocos Sur, and La Union in Northern Luzon (Rubino 1997, 2005). For this reason, much attention has been paid to the Ilokano varieties of the aforementioned “original” Ilokano provinces (Bloomfield 1942; Constantino 1971; Rubino 1997, to name a few).

This study explores the phonetic features of Pangasinan Ilokano, one of the Ilokano regional varieties spoken in the province of Pangasinan, located in Northern Luzon. Few studies have focused on this variety, and this study aims to contribute to the study of Ilokano regional varieties by providing data from this understudied variety of Ilokano. In particular, special consideration is given to the proposal made by Rubino (1997, 2005) that the major varieties of Ilokano in Northern Luzon can be categorized in terms of the pronunciation of vowels (Rubino 1997, 2005). This study is based on elicitation data collected in Tokyo from a 30-year-old speaker between October 2022 and January 2023. The data was elicited by using a word list. The informant is from the municipality of Mangataram in the province of Pangasinan and has been living in Japan since 2019. Aside from Ilokano, the informant speaks Tagalog, English, and Japanese.

* I would like to express my appreciation to my advisor, Naonori Nagaya. I am also grateful to my informant for contributing to this study. Of course, any remaining errors are my own.



Map 1. The Republic of the Philippines

This paper is organized as follows. First, Section 1 offers a short introduction to Pangasinan Ilokano and explains the gap in the literature that this study hopes to help fill. Next, in Section 2, the phonetic features of consonants are presented via Praat visualizations (Boersma 2007). Then, in Section 3, the phonetic features of vowels are described based on vowel plots from the vowels package (Kendall & Thomas 2018) for R (R Core Team 2023). The paper concludes in Section 4.

2. Consonants

Pangasinan Ilokano has fifteen native consonants, as shown with examples in Table 1. The two parenthesized consonants (h) and (ts) are only used for loanwords (but see below).

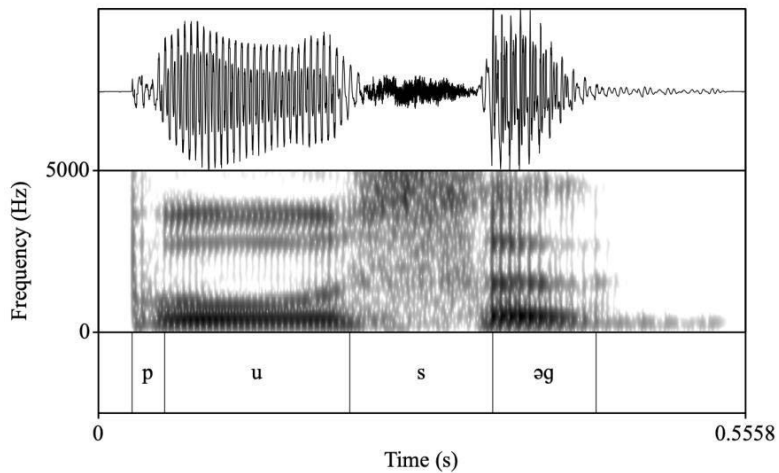
Some remarks are in order regarding these consonants. First, there are seven stops: /p/, /t/, /k/, /ʔ/, /b/, /d/, and /g/. These stops are distinguished by voicing. To illustrate, compare the duration of each word-initial sound in Figures 1 and 2 below. Figure 1 shows the waveform and spectrogram of the word *pusəg* ‘navel’, and Figure 2 shows the waveform and spectrogram of the word *bukot* ‘back’. The voice onset time of the word-initial [p] is 28ms in Figure 1, while that of the word-initial [b] is -88ms in Figure 2.

Among the seven stops, /p/, /t/, /k/, and /ʔ/ are voiceless, and /b/, /d/, and /g/ are voiced. The stops are distinguished by place of articulation: labial, dental, velar, and glottal. Except for the glottal stop, all stops in Pangasinan Ilokano are unreleased in the word-final position, e.g., *bukot* ‘back’, shown in Figure 2.

Table 1. Consonants

	Labial	Dental	Alveolar	Palatal	Velar	Glottal
Voiceless stop	p	t			k	ʔ
Voiced stop	b	d			g	
Fricative			s			(h)
Affricate			(ts)			
Nasal	m		n		ŋ	
Tap/Trill			r			
Lateral			l			
Glide	w			j		

/p/	<i>pusəg</i>	‘navel’	/g/	<i>gataŋ</i>	‘to buy’	/ŋ/	<i>ŋiwat</i>	‘mouth’
/t/	<i>tuməŋ</i>	‘knee’	/s/	<i>suso</i>	‘breast’	/ɾ/	<i>ruaŋan</i>	‘door’
/k/	<i>kajo</i>	‘wood’	/h/	<i>huebes</i>	‘Thursday’	/l/	<i>luppo</i>	‘thigh’
/ʔ/	<i>daʔan</i>	‘old’	/ts/	<i>tsokolate</i>	‘chocolate’	/w/	<i>wən</i>	‘yes’
/b/	<i>bukot</i>	‘back’	/m/	<i>mata</i>	‘eye’	/j/	<i>jaman</i>	‘to be thankful’
/d/	<i>daləm</i>	‘liver’	/n/	<i>napuskol</i>	‘thick’			

**Figure 1. Word-initial voiceless stop**

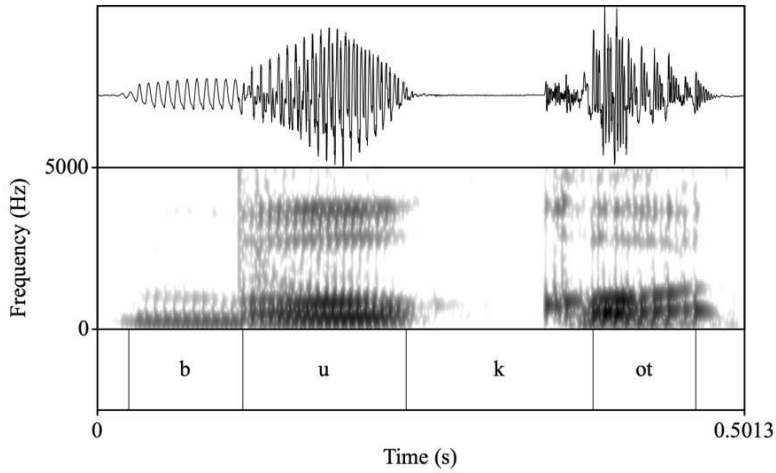


Figure 2. Word-initial voiced stop

Although whether the glottal stop /ʔ/ is phonologically recognized is a matter of some controversy (cf. Constantino 1959; Nagaya & Uchihara 2021), [ʔ] is realized phonetically in Pangasinan Ilokano. Figure 3 below shows the waveform and spectrogram of the word *daʔan* ‘old’. A blockage and release can be observed between the two [a] vowels. As shown, [ʔ] occurs intervocally. Unlike the other six stops, glottal stops do not appear word-finally in Pangasinan Ilokano (Rubino 1997, 2005; Yamamoto 2017).

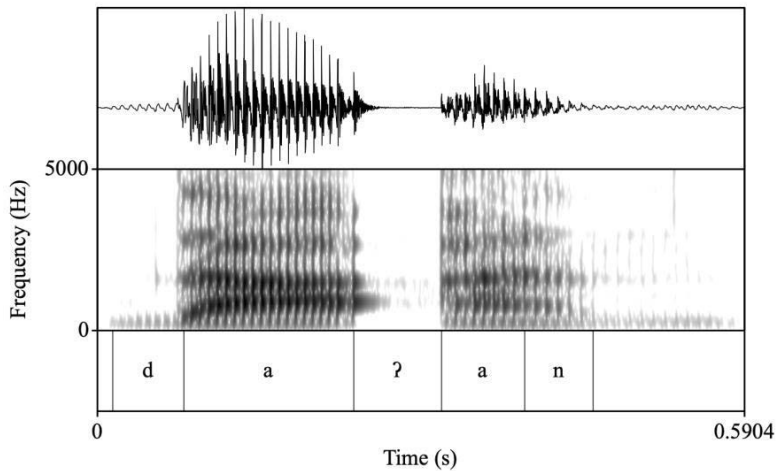


Figure 3. Glottal stop

Second, there are two fricatives (/s/ and /h/) and one affricate (/ts/) in Pangasinan Ilokano. /h/ and /ts/ are used for loanwords, except in the case of the native word *haʔan*, ‘no, not’ with the glottal fricative /h/

(Rubino 1997, 2005). Both /s/ and /ts/ are alveolar consonants.

Third, there is a rhotic /r/ that can be articulated as the alveolar tap [ɾ] or the trill [r]. Both Figures 4 and 5 below show the waveforms and spectrograms of the word *dara* ‘blood’. A single closure can be seen between the [a] vowels in Figure 4, while two closures can be seen in Figure 5. The former is the rhotic /r/ articulated as the alveolar tap [ɾ], and the latter shows it articulated as the alveolar trill [r].

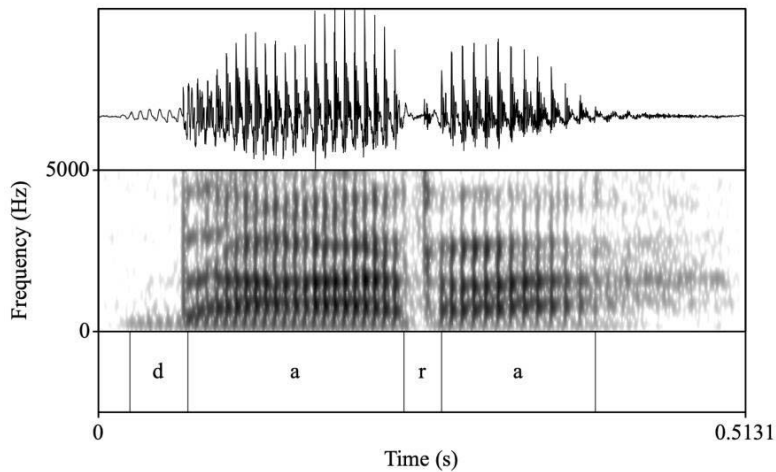


Figure 4. /r/ articulated as the alveolar tap [ɾ]

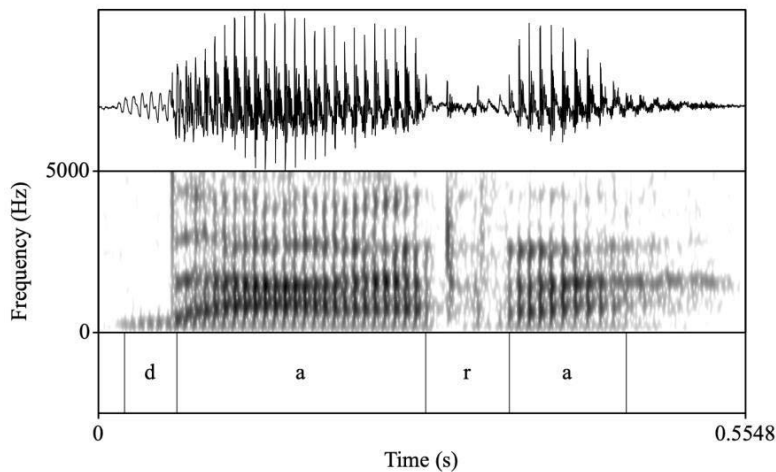


Figure 5. /r/ articulated as the alveolar trill [r]

Last, there are three nasals (/m/, /n/, and /ŋ/), two glides (/w/ and /j/), and one lateral consonant (/l/). The nasals are distinguished by place of articulation: labial, alveolar, and velar. The glides are also distinguished

by place of articulation: labial and palatal. /l/ is articulated as an alveolar sound.

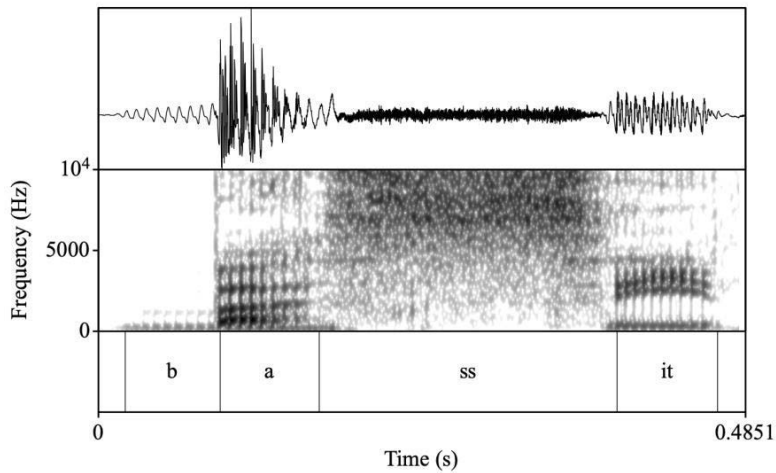


Figure 6. Geminated consonant

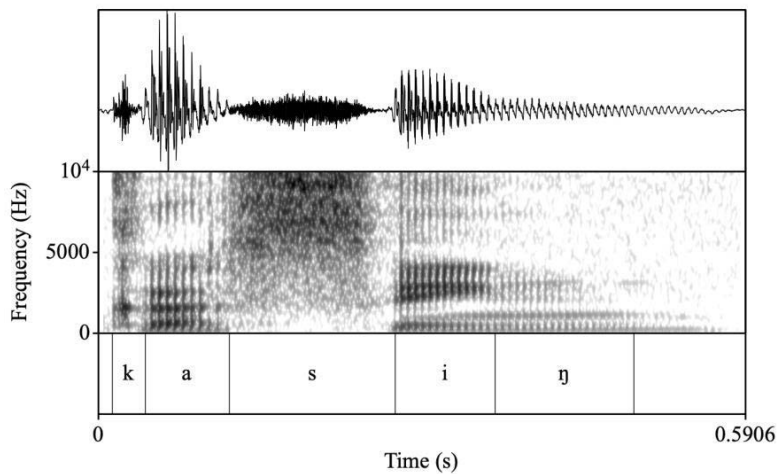


Figure 7. Non-geminated consonant

Consonant gemination in Pangasinan Ilokano occurs word-medially. Compare the duration of each word-medial sound in Figures 6 and 7 above. Figure 6 shows the waveform and spectrogram of the word *bassit* ‘small’, and Figure 7 shows the waveform and spectrogram of the root *kasiŋ* ‘same’. The duration of the word-medial [s:] is 223ms out of the total 444ms in Figure 6, while that of the word-medial [s] is 151ms out of 476ms in Figure 7. Indeed, the noise of the geminated consonant continues for relatively more time than does the non-geminated consonant. Additionally, every native consonant in Pangasinan

Ilokano except for /ʔ/ can be geminated (Yamamoto 2017: 24).

3. Vowels

Pangasinan Ilokano has four native vowels (/i/, /ə/, /a/, and /u/) and two loan vowels (/e/ and /o/), as presented in Table 2. The six vowels are distinguished by the position of the high point of the tongue: high, mid, and low. The vowels /u/ and /o/ are rounded, while the other four vowels are unrounded.

Table 2. Vowels

	Front	Central	Back
High	i		u
Mid	(e)	ə	(o)
Low		a	

/i/	<i>bigat</i>	‘tomorrow’		/ə/	<i>təŋŋəd</i>	‘neck’		/u/	<i>bukot</i>	‘back’
/e/	<i>tren</i>	‘train’		/a/	<i>bakət</i>	‘old woman’		/o/	<i>bola</i>	‘ball’

In the orthography conventionally used among Pangasinan Ilokano speakers, /i/, /a/, /u/, and /o/ are spelled as <i>, <a>, <u>, and <o>, respectively. The native vowel /u/ is lowered only in word-final syllables and is represented as <o>, e.g., *buko* ‘coconut’. Both /ə/ and /e/ are represented as <e> and are not distinguished in the orthography.

These six vowels are plotted in the vowel space in Figure 8 below. Each vowel is plotted based on the actual values of its first and second formants, and each ellipse shows the estimated range that every vowel is likely to be included in.

Two important observations can be made from the data in Figure 8. First, this figure highlights the importance of the pronunciation of /ə/ in classifying the regional varieties of Ilokano. According to Rubino (1997, 2005), /ə/ is pronounced with a front mid [ɛ] in the Northern varieties spoken in Ilocos Norte and Ilocos Sur in Northern Luzon. In Pangasinan Ilokano, in contrast, /ə/ is pronounced as a central mid [ə] rather than a front mid [ɛ]. Although the ellipses of /ə/ and /e/ overlap each other in Figure 8, their ranges are quite different in the front-to-back dimension. The range of the ellipse of /ə/ is rather close to that of the central vowel /a/, pronounced as [a] in the front-to-back dimension. This suggests that /ə/ is pronounced as a central mid [ə]. Thus, the data presented here supports the claim that the pronunciation of /ə/ is a crucial feature in distinguishing the Pangasinan variety from the Northern varieties.

Second, Figure 8 shows that the ellipses of [u] and [o] are close to each other. Although the back vowels /u/ and /o/ are phonologically distinguished, the phonetic difference between them is only marginal.

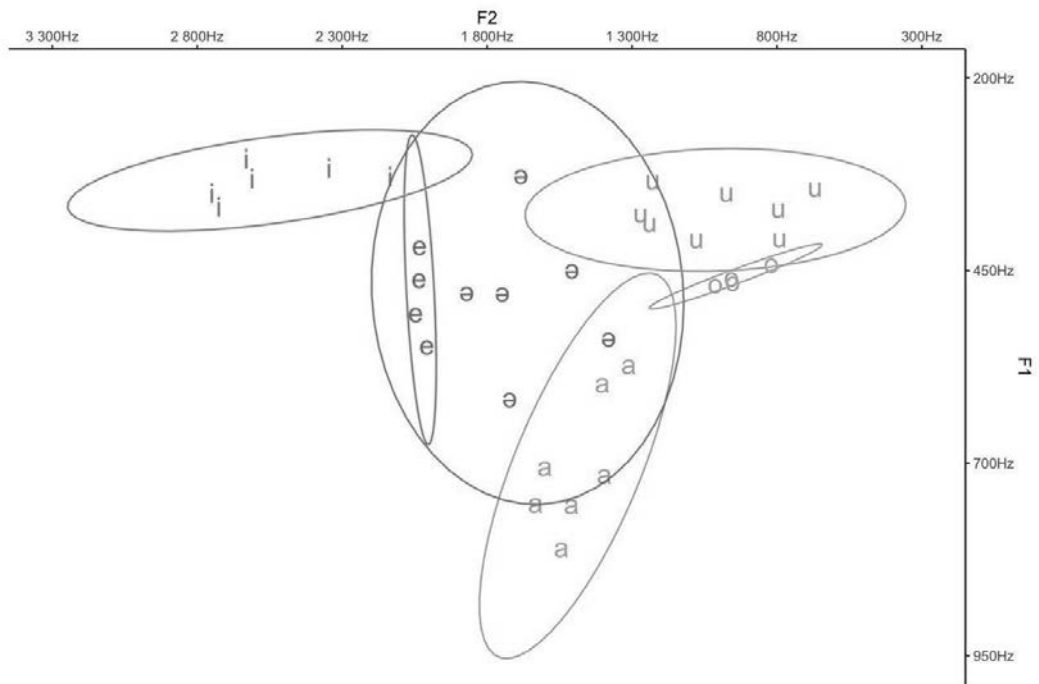


Figure 8. Vowel space for Pangasinan Ilokano

Some studies identify three to thirteen diphthongs in Ilokano (Constantino 1971; Rubino 1997, 2005), while another claims that there are no diphthongs in the language (Yamamoto 2017). At this stage, there is insufficient data to support either analysis in Pangasinan Ilokano. More detailed investigation is needed.

4. Conclusion

This study explored the phonetic features of Pangasinan Ilokano based on elicitation data. By presenting visualizations of the sounds of Pangasinan Ilokano, this study advanced our understanding of how consonants are pronounced in this language. In addition, it confirms that the front-to-back tongue positions of the vowels play a crucial role in categorizing the regional varieties of Ilokano. Thus, this study contributes to filling a gap in descriptions of Ilokano.

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イロカノ語パンガシナン方言の音声学的記述

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要旨

本論文では、イロカノ語の地域変種であるパンガシナン方言の音声学的記述を行う。イロカノ語は、フィリピン共和国ルソン島北部で話されているオーストロネシア語族の言語である。イロカノ語の話者は900万人にのぼり、研究の蓄積もあるものの、パンガシナン方言についてはこれまで注目されてこなかった。そこで本研究では、聞き取り調査によって得られたデータを基に、イロカノ語パンガシナン方言の音声学的特徴を調査する。まず、データを視覚化することによって、イロカノ語パンガシナン方言の子音と母音が実際にどのように発音されているかを記述する。さらに、先行研究で主張されているように、イロカノ語の地域変種を特徴付ける上で、母音の調音における舌の最高部の前後が重要な素性であることを裏付ける。こうして、本研究はイロカノ語の個別言語的記述に貢献する。

(はやし・まい 東京大学人文社会系研究科)