

The Sociophonetics and Phonology of the Cavite Chabacano Vowel System

DISSERTATION

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By

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Abstract

This study analyzes the origins and development of the phonology of Cavite Chabacano, focusing particularly on the role of superstrate and substrate influence on the history of the vowel system. This endangered language, spoken in Cavite City, Philippines, is a Spanish-lexified creole with Tagalog as the substrate. The study incorporates sociophonetic methodology, insights from second language phonological acquisition, and consideration of the language attitudes and ideologies of the speakers in order to describe the development of the phonological system. The data come from word list tasks, reading tasks, interviews, and perceptual dialectology tasks conducted during six months of fieldwork.

The first part of the study describes the segmental and prosodic phonology of Cavite Chabacano, including synchronic and diachronic variation related to how the phonological system developed over time under input from the substrate and superstrate systems, particularly with respect to the vowel system. Modern Cavite Chabacano has a 5-vowel system like the superstrate Spanish and generally preserves Spanish forms faithfully, but there are some words that have vowels differing from the Spanish forms in ways that indicate early substrate influence from the Old Tagalog 3-vowel system.

The second part of the study focuses on the sociophonetic analysis of the vowel system, arguing that it is at the phonetic rather than the phonological level where substrate/adstrate influence in the language is most evident. Stressed vowels and phrase-final vowels are significantly different from unstressed and nonfinal vowels in terms of vowel quality and duration. These phonetic patterns are more characteristic of the substrate Tagalog than of the superstrate Spanish. The results also confirm and expand upon previous claims (German 1932, Miranda 1956) about dialectal variation in the vowel system. The dialects of the Caridad and San Roque districts of Cavite City both have acoustic overlap between unstressed high and mid vowels, but in San Roque there is more phrase-final mid vowel raising, particularly for /e/. Overall, Caridad has a more dispersed vowel system compared to San Roque, perhaps indicating greater phonetic restructuring as the additional vowel contrasts of Spanish were acquired. However, substrate influence in the prosodic conditioning and phonetic realization of the vowels is evident in both districts.

The third part of the study shows that Cavite Chabacano speakers have high metalinguistic awareness of this dialectal variation in the vowel system, and that the San Roque dialect has greater prestige. It is argued that substrate influence in the vowel system initially arose through phonetic restructuring during second language acquisition, but that due to sociohistorical and ideological motivations, the substrate features were retained even as Cavite Chabacano phonology otherwise conformed to standard Spanish in terms of other features.

The study combines methodology and insights from sociophonetics, historical phonology, second language acquisition, and perceptual dialectology in order to provide a nuanced account of how the Cavite Chabacano vowel system emerged and developed over time. The results demonstrate how substrate influence in creoles can be evident at the phonetic as well as the phonological level, and how sociohistorical factors can shape the development of the language.

Dedication

Para con mi mga aguela na Cavite, Purificacion Ballesteros y Andrea Baleda, y para con mi amigo y maestro de Chabacano, Sir Ike Escalante.

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Publications

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Fields of Study

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Chapter 1: Introduction

1.1 Topic and aims of the dissertation

This dissertation focuses on the sociophonetics and phonology of the vowel system of Cavite Chabacano, a Spanish-lexified, Tagalog-substrate creole spoken in Cavite City, Philippines in the Manila Bay region. Cavite Chabacano is one of several Chabacano creoles that formed in two main regions of the Philippines during the Spanish colonial period, which lasted from 1571-1898.

This study has two main goals. First, it aims to describe the phonological, phonetic, and sociohistorical factors that led to the development of the vowel system of the language, with the ultimate goal of contributing to the theory on how creole phonological restructuring takes place. Second, another goal of this study is to provide documentation of a language that is severely endangered (Lesho & Sippola 2013). The study is based on six months of fieldwork in Cavite City, supported by the National Science Foundation and the Ohio State Targeted Investment in Excellence program.

Previous phonological analyses have often focused on comparisons of creole, superstrate, and substrate systems at the phonemic level, for example, by comparing the number of phonemes in the creole and its input languages or by framing creole

phonological restructuring in terms of markedness and the reranking of constraints. Until fairly recently (Russell Webb 2008, 2010, 2011, 2013), the role of phonetic perception and sociolinguistic factors in creole phonological restructuring has often been overlooked. Phonetic research on creoles is rare, but this study demonstrates that sociophonetic methods can be used to provide the fine-grained detail necessary to reveal how a creole patterns similarly to or differently from its input languages beyond just the phonological level. The study shows that while Cavite Chabacano is superficially similar to the superstrate Spanish in terms of having the same number of vowel categories, it is also similar to the substrate Tagalog in terms of how the vowels are realized phonetically under different prosodic conditions and how the categories are organized in the vowel space. The study also emphasizes the importance of considering sociohistorical factors and identity in creole formation.

1.2 Overview of the study

This study combines three types of analysis in order to form a detailed account of the phonology and phonetics of the Cavite Chabacano vowel system. First, I described the phonology of Cavite Chabacano at the segmental and prosodic levels, including details about synchronic variation and how the phonological system evolved over time as the nature of the Spanish and Tagalog input changed over the course of the Spanish colonial period. The data came from a combination of original fieldwork, previous phonological descriptions (German 1932, Ramos 1963), and dictionary sources (Riego de

Dios 1989, Escalante 2005, Asosiacion Chabacano 2008). The original data were from a word list task and a story reading and retelling task. The whole phonological system was described in order to provide context for how superstrate and substrate influence may be evident in the vowel system more specifically. Following Lipski (1986, 1987), I view Cavite Chabacano phonology as having original input from Mexican Spanish and input during a later period from Peninsular Spanish. I also discuss the historical phonology of the Tagalog vowel system in order to analyze how the substrate influenced Cavite Chabacano phonology.

Second, sociophonetic methods were used to analyze the vowel system in greater detail. The aim was to provide a phonetically based description of the overall vowel system to support the phonological analysis described above, and to investigate previous claims of dialectal variation in the raising of the unstressed mid vowels /e/ and /o/ (German 1932, Ramos 1963). It was hypothesized that the raising of the mid vowels might be related to substrate influence, as Old Tagalog speakers had a 3-vowel system and may have assimilated the mid vowels of the Spanish 5-vowel system to their native high vowel categories, especially in positions that are prosodically not salient. It was also hypothesized that Cavite Chabacano vowels might be similar to Tagalog vowels in how they are conditioned prosodically, for example, by having reduction in unstressed positions or by lengthening at the end of the phrase. A word list task and a carrier phrase task were used to analyze the production of the vowels in different prosodic contexts. Data from two different districts of the city were compared in order to determine if there

was dialectal variation in the vowel system, and to investigate if the dialects were more phonetically similar to the superstrate Spanish or the substrate Tagalog.

Finally, qualitative analysis of data from a perceptual dialectology task was used in order to investigate the social context of the findings about variation documented in the phonological and sociophonetic parts of the study. The task was used to investigate whether the participants were metalinguistically aware of the phonological features and variation described in the study, what their opinions and attitudes might be toward the different dialects in the city, and how they viewed the relationships between the different dialects of Cavite Chabacano, the superstrate, and the substrate. The results of this task were used to investigate how language attitudes and ideologies about the different language varieties of Cavite may have helped to shape the phonological system of Cavite Chabacano.

Cavite Chabacano is a severely endangered language, as discussed in Chapter 2. This dissertation and the corpus of recorded data collected during fieldwork will hopefully not only contribute to the fields of creole linguistics and sociolinguistics, but also serve as a permanent record of this language before it disappears.

1.3 Organization of the dissertation

This dissertation has three major components: phonological analysis, sociophonetic analysis, and qualitative analysis of the folk perception of phonological variation in Cavite Chabacano. In order to understand the motivation and context of the

study, detailed descriptions of the origins of the Chabacano creoles, the history of Cavite City and Cavite Chabacano, and previous phonological research on Cavite Chabacano, other Chabacano varieties, the substrate Tagalog, and the superstrate Spanish are presented in Chapter 2. In Chapter 3, the study is put into the broader context of the field as I discuss the previous literature on phonetics, phonology, and attitudes toward language variation in creoles, and describe the frameworks and methodology from the subdisciplines of sociophonetics and second language acquisition that inform my approach to this study. The field methods used for data collection and the characteristics of the participants of the study are described in Chapter 4. Chapters 5, 6, and 7 present the main results of the phonological, sociophonetic, and perceptual dialectology components of the study. Finally, Chapter 8 synthesizes the findings from these different methods of analyses in order to fully paint the picture of how the Cavite Chabacano system developed over time, and it evaluates the broader implications of the study and its contributions to the field.

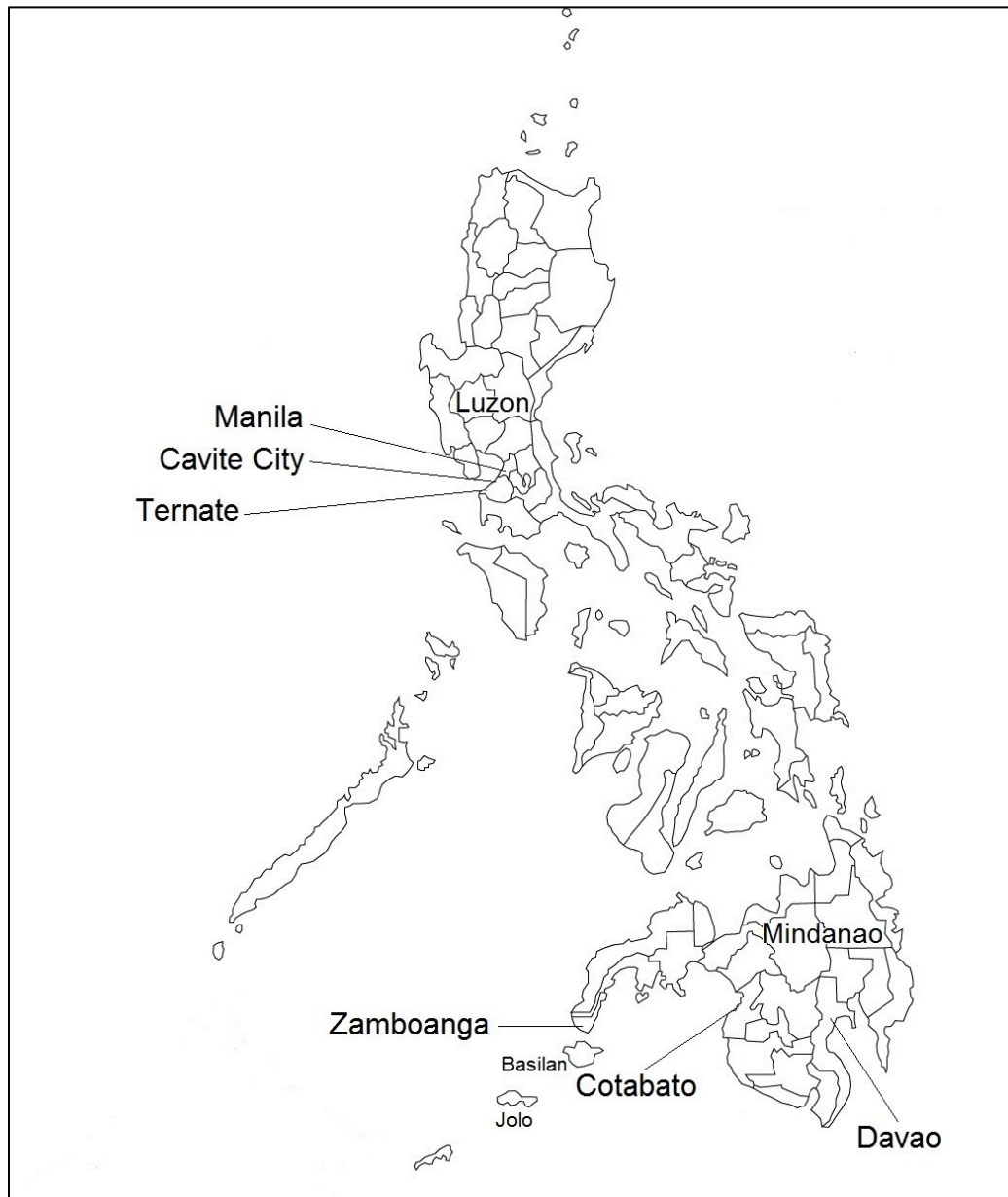
Chapter 2: The Sociohistorical and Linguistic Background of Cavite Chabacano

2.1 Introduction

This chapter provides an overview of the sociohistorical and linguistic circumstances that led to the formation of Cavite Chabacano and influenced its development until the present day. Section 2.2 discusses the historical origins of the Chabacano creoles in general and Section 2.3 focuses on the current state of research about them. Section 2.4 reviews the sociohistorical background of Cavite Chabacano in particular, including settlement patterns and what kinds of Spanish and Tagalog dialects were in contact in Cavite during the colonial period. 2.5 discusses the contact situation of Cavite Chabacano after the Spanish period and its endangered status today. Section 2.6 reviews previous phonological studies on Cavite Chabacano, as well as the phonetic and phonological features of the superstrate and substrate vowel systems that may have influenced the development of the Cavite Chabacano vowel system. Finally, 2.7 summarizes the focus of this study in light of the sociohistorical and linguistic facts discussed in this chapter.

2.2 The Chabacano creoles

Chabacano, also referred to by linguists as Philippine Creole Spanish, is a group of creoles spoken in two regions of the Philippines, on the southern island of Mindanao and on the northern island of Luzon in Cavite province, south of Manila Bay (see Map 1).

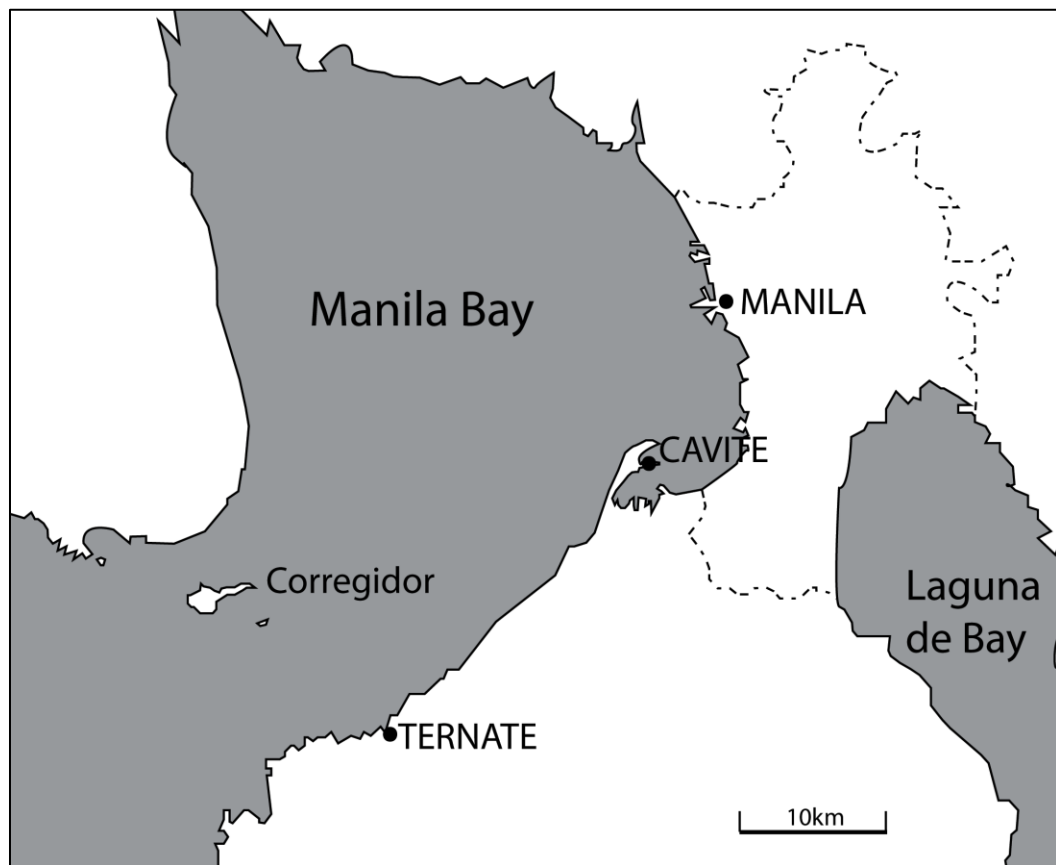


Map 1. Historically Chabacano-speaking locations in the Philippines

Chabacano formed during the Spanish colonization of the Philippines, which lasted from the late 16th century until 1898, when the Americans took control of the islands. Unlike the colonial situation in Latin America, Spanish was never spoken by a large percentage of the Philippine population (Gonzalez 1998). Most Filipinos were not in direct contact with Spanish speakers (Phelan 1959), and the widespread teaching of Spanish did not begin until late in the 18th century. Spanish priests usually preached to Filipinos using their own languages. However, Manila Bay and Zamboanga were centers of the Spanish military, trading, and religious presence in the islands. Language contact between Spanish and the Philippine languages in these areas was intense and led to the development of trade pidgins, creoles, and a non-creolized variety of Philippine Spanish (Lipski et al. 1996, Steinkrüger 2008). Philippine languages also gained a substantial number of loanwords from Spanish during this period.

There are two remaining Manila Bay creoles, one spoken in Ternate at the mouth of the bay, and one in Cavite City closer to Manila (see Map 2). The substrate/adstrate of the Manila Bay creoles is Tagalog. Historically, Chabacano was also spoken in the Manila district of Ermita (Whinnom 1956) and probably elsewhere in Manila and the surrounding provinces (Fernández 2011), which are also Tagalog-speaking regions. However, Ermita Chabacano is now extinct. Ternate Chabacano and Cavite Chabacano each have about 3,000 remaining speakers, but in Ternate that figure makes up about 22% of the overall population, and in Cavite City it is only about 3% (Lesho & Sippola 2013). On the UNESCO (2003) scale of language endangerment, Lesho & Sippola rank

Ternate Chabacano as threatened but stable, and Cavite Chabacano as severely endangered. Many children in Ternate still learn Chabacano, but in Cavite City most speakers are of the grandparental generation or older. Cavite City is also much more urban and integrated with Metro Manila compared to Ternate, which is a small and isolated town. Both Cavite and Ternate Chabacano are also heavily influenced by English as well as Tagalog/Filipino,¹ which are the two official languages of the country. Spanish is no longer spoken in either town except by a few residents, most of whom are older and college educated.



Map 2. Locations of the Manila Bay Chabacano communities

¹ Filipino is the nationalized variety of Tagalog (see 2.5.1).

In the south, Zamboanga Chabacano is spoken in Zamboanga City, elsewhere throughout the Zamboanga peninsula, and on neighboring small islands, including Basilan and Jolo. It is the only Chabacano variety that still has a robust and even growing number of speakers, as it has become the lingua franca of the region. It has approximately 359,000 speakers according to the 2010 census,² and it is used in the media, in popular culture, and in elementary education.³ Cotabato Chabacano historically was spoken across the gulf in Cotabato City, and Davao Chabacano was spoken to the east around Davao City (Whinnom 1956). Davao Chabacano seems to be extinct (Lipski et al. 1996, Fortuno-Genuino 2011), and the current status of Cotabato Chabacano is unclear.

The main substrates/adstrates of Zamboanga Chabacano are Hiligaynon and Cebuano (Lipski 1992), and in addition to fluency in one or both of these other languages, many speakers today also know other languages of the region, such as Yakan (Sama-Bajaw) and Tausug (Central Philippine).⁴ Davao and Cotabato Chabacano came partly from Zamboanga Chabacano (Lipski et al. 1996:279-280), and partly from mixture with other languages in the region. Riego de Dion (1989) mentions that Cotabato Chabacano speakers were bilingual in Maguindanao (Danao, Greater Central Philippine), and Davao Chabacano had influence from Tagalog, Cebuano, and other Central

² Philippine census numbers for language usage are not very reliable. The number of Zamboanga Chabacano speakers is probably much higher, given that Zamboanga City's total population is nearly double that number, and there are Chabacano speakers outside of the city as well.

³ This last development is recent. In 2011, Zamboanga Chabacano was chosen as one of twelve regional languages to participate in the Philippines' new Mother Tongue-Based Multilingual Education initiative (Lesho & Sippola 2013).

⁴ All language family classifications used in this section come from Ethnologue (Lewis et al. 2013).

Philippine languages (Whinnom 1956, Lipski et al. 1996:279). As with the Manila Bay creoles, the Mindanao creoles are heavily influenced by Filipino and English.

The name *Chabacano* is used to refer to the group of creoles collectively. Locally, speakers also refer to their specific variety as Chabacano, although in Zamboanga the spelling *Chavacano* is often preferred, and in Ternate *Bahra* (< Spanish *barra* ‘mouth of a river’, referring to the location of the community) is most common. Previous linguistic studies have used the names *Zamboangueno*, *Davaueño/Davaweño*, *Cotabateño*, *Caviteño*, *Ermitaño/Ermiteno*, and *Ternateño* for the respective Chabacano varieties (e.g. Whinnom 1956, Forman 1972, Molony 1973), but these terms are usually used by local residents to refer to the people from those places, and are not as commonly used as language names. Whinnom (1956) even acknowledges that *Davaweño* is used locally to refer to a completely unrelated language variety. Riego de Dios (1989) and Llamado (1969) were native speaker linguists who referred to their respective varieties as Cotabato Chabacano and Cavite Chavacano.⁵ In keeping with this convention, throughout this study I refer to the different varieties as Zamboanga Chabacano, Cavite Chabacano, Ternate Chabacano, and so forth, as is also done in recent work by Sippola and Steinkrüger (in Michaelis et al. 2013) and Lesho & Sippola (2013).

2.2.1 *Historical origins*

During the 16th and 17th centuries, the Spanish battled the Portuguese and the Dutch for control over the resources and trade in Southeast Asia, including the Spice

⁵ I have chosen to use *Cavite Chabacano* with a instead of <v>, as it is written in most other locally produced materials (Asociacion Chabacano 2008; Escalante 2005, 2010, 2012).

Islands of Indonesia. The Philippines were strategically important for military and trading purposes, with their proximity to Indonesia and China. The Spanish first arrived to the Philippines in 1521, when Magellan attempted to sail around the world, but it was not until 1565 that Miguel López de Legazpi established Spanish presence there. Manila was made the capital in 1571. The new Philippine colony was not ruled directly by Spain, but rather by Mexico as part of the Viceroyalty of New Spain. As a result of this contact, Chabacano varieties formed in the Manila Bay region and in western Mindanao.

Although the Chabacano creoles share similar origins with Spanish as the lexifier and Central Philippine languages as the substrates, there is some debate on what exactly the genetic linguistic relationships are between the creoles. Generally there is a recognized split between the Manila Bay varieties and the Mindanao varieties, with likely initial input in Zamboanga Chabacano from the Manila Bay creoles (Whinnom 1956, Lipski 1992). There is also debate on whether or not Chabacano, particularly the Ternate variety, originated from a Portuguese-based contact language that was later relexified by Spanish (Lipski 1988). The following discussion provides more detail about the sociohistorical background of the Chabacano creoles and summarizes these debates about their origins.

2.2.2 The Manila Bay varieties

Ternate Chabacano is thought to be the oldest variety (Whinnom 1956, Molony 1974), and it is at the center of the debate over whether or not Chabacano was originally based on a Portuguese contact language. Whinnom (1956) claimed that it first formed on

Ternate in the Moluccas (one of the Spice Islands), with a Portuguese pidgin or creole as the basis. He claimed that this variety was later brought to the Philippines, after the Spanish occupied the island of Ternate in 1606 and later transferred two hundred Christianized native families from there to Manila around 1659 in order to help defend the city from an attack by the Chinese pirate Koxinga. This group was called the *Mardikas*, and by 1660 they left Manila because they quarreled with their Tagalog neighbors and settled at the mouth of the Maragondon River at the entrance of Manila Bay (Whinnom 1956:7). Other sources put the settlement of this area at a later date, but likely still before 1700 (Rafael 1978, Fernández 2011).

The *Mardika* settlement was referred to as *Barra de Maragondon* (< Sp. ‘mouth of Maragondon River’) until the official establishment of the town of Ternate in 1856 (Rafael 1978:349, Medina 2001:48-50), and the *Mardikas* maintained a distinct ethnic identity from their Tagalog neighbors until the 19th century (Rafael 1978:350). In comparison to the Cavite and Zamboanga communities, they also appear to have had little direct contact with the Spanish after the 17th century (Molony 1973). Whinnom (1956) also claims that some of the *Mardikas* settled in San Roque, which is now part of Cavite City, and in Tanza, a town between Ternate and Cavite City.

Molony’s (1973) analysis shows that there are elements of the Chabacano lexicon and phonology that appear to be from Portuguese, giving “mild support” (1973:49) to the theory that the creole was originally based on a Portuguese contact variety from the Moluccas. However, Lipski (1988) cautions against attributing the origin of Chabacano to a Portuguese pidgin or creole, observing that many of the “Portuguese” forms in

Ternate Chabacano (e.g. *prieto* ‘black’ and *aguelo* ‘grandfather’ instead of standard Spanish *negro* ‘black’ and *abuelo* ‘grandfather’) can also be found in past and present regional varieties of Spanish. German (1932) similarly identifies these words as belonging to archaic Spanish. Through comparison to Portuguese creoles, Lipski also shows that other linguistic evidence of a Portuguese origin for Chabacano (e.g. the TMA particles and the pronominal system) is unconvincing, and argues that two hundred *Mardika* families in Manila was a relatively small number, perhaps “insufficient to transmit intact whatever creolized language they may have brought with them” (Lipski 1988:39). Lipski finds it more likely that the language of the *Mardikas*, creolized or not before they arrived to the Philippines, simply “added to the multilingual flux” characterizing Manila and Cavite, without necessarily serving as the basis of Chabacano (1988:39).

Whinnom believed that Cavite and Ermita Chabacano, along with Zamboanga and Davao Chabacano,⁶ “all descended more or less directly from Ternateño” (1956:17). However, more recent research on the origins of the Manila Bay creoles and the Mindanao creoles has shown that the Chabacano varieties are likely not directly related in this way. While there is great similarity between all Chabacano varieties and there is a high degree of mutual intelligibility, there are also fairly substantial lexical and grammatical differences between them. For example, Ternate, Cavite, and Zamboanga Chabacano all have differences in their pronominal systems, especially in the plural

⁶ Whinnom (1956) does not mention Cotabato Chabacano.

forms (e.g. 1PL *mihotro* in Ternate, *niso* in Cavite, and *kame* [exclusive] and *kita* [inclusive] in Zamboanga; Lipski 1992:208).

In tracing the history of the Manila Bay creoles, Fernández (2011) calls into question most of the major pieces of Whinnom's (1956) narrative about their origins. First, he provides historical evidence from documents written by priests of that era that the Mardikas of Ternate may not even have been among the two hundred families who were supposedly transferred to Manila, and therefore may never have lived in the district of Ermita. Based on historical and linguistic evidence, he also doubts that Cavite Chabacano was an offshoot of Ternate Chabacano. Historically, it is documented that the Ternateños knew Tagalog and some variety of Spanish, but they also maintained their "own language" at least through the 18th century and did not usually mix with even their closest Tagalog neighbors in Maragondon (Fernández 2011:195-196, Rafael 1978). Their isolation makes it unlikely that those in Cavite or Manila would have been influenced by their contact variety. Furthermore, if Cavite Chabacano did not develop independently of Ternate Chabacano, it is difficult to explain some of the differences between the varieties, e.g. the different sets of plural pronouns.

Fernández (2011) also argues that "Ermita Chabacano" or "Ermitaño", as described by Whinnom (1956), was probably also spoken outside of the Ermita district of Manila, as far away as the provinces of Laguna and Tayabas (now called Quezon), which are located to the southeast of Manila and Cavite province. A 19th century text from Tayabas clearly shows features also found in Cavite Chabacano, including the same pronouns and TMA markers (Fernández 2011:205).

Furthermore, Fernández argues that rather than the Mardikas, who were only in Manila for a short amount of time if they were ever there at all, it was the Chinese-Filipino mestizos who were responsible for spreading Chabacano throughout the region. This argument aligns with Thompson's (2003:60) observation that the Spanish did not begin teaching their language in public schools until late in the 19th century, and it was the upwardly mobile, newly rich Chinese mestizos who were learning Spanish and spreading it as they conducted business in different parts of the Philippines. Wickberg (2000:34) also discusses "mestizo towns" in Laguna and elsewhere, where "richer mestizos carefully maintained their distinctiveness, which they partly accomplished by seeming to be more hispanized and pro-Spanish than the indios [Filipinos]". If Chabacano was also spoken in these "mestizo towns" along with the non-creolized Spanish that spread in the late 19th century, it explains why the national hero Jose Rizal, who was from a prominent mestizo family in Laguna, wrote Chabacano conversations into his Spanish novels and also used it in his personal correspondence (Fernández 2011:211-212). Many of the prominent families of Cavite City are also of Chinese mestizo origin (e.g. the Ballesteros, Basa, Inocencio, Osorio, and San Agustín families; Borromeo-Buehler 1985).

2.2.3 *The Mindanao varieties*

The origins of the Mindanao creoles have also been in dispute. There seems to be consensus that Zamboanga Chabacano developed semi-independently, with some possible initial input from the Manila Bay varieties, but with Hiligaynon as the main

substrate rather than Tagalog. Cotabato and Davao Chabacano are thought to have developed later than Zamboanga Chabacano (Riego de Dios 1989, Whinnom 1956). Whinnom believed Davao Chabacano to be a direct descendant of Zamboanga Chabacano, but Riego de Dios believed Cotabato Chabacano to have developed independently of it. Very little has been written about Davao Chabacano since Whinnom's (1956) work, but there are various theories about the formation of the other two Mindanao creoles.

The Spanish were in Zamboanga as early as 1631, but had to abandon their fort in 1662 and returned to rebuild it in 1719 (Whinnom 1956:14). Whinnom calls Zamboanga Chabacano a direct descendant of Ternate Chabacano, but he also refers to it as a "semi-independent growth" as a result of the mixture of Mexican, Tagalog, and Visayan troops with native women after the rebuilding of the fort in 1719 (1956:14). He also assumes that some of the Tagalog troops knew Ermita or Cavite Chabacano. Frake (1971) likewise observes the similarities between the Manila Bay creoles and Zamboanga Chabacano and assumes that there was semi-independent creolization of a Spanish military pidgin. He also observes that the majority of Philippine lexical items in Zamboanga Chabacano come from Hiligaynon, which is spoken natively not on Mindanao, but to the north in Iloilo, Panay, and other areas of the central Philippines. Another theory is that slaves captured from various parts of the Philippines by raiders from the Sulu Sea escaped to Zamboanga, where they came to play an important role in creole formation (Warren 1981).

Lipski (1992:220-221) proposes that Zamboanga Chabacano developed through several stages of “partial relexification” during different time periods. In the first stage, he argues that Zamboanga Chabacano originally formed “not as a true creole, but as a natural common intersection of grammatically cognate Philippine languages which had already incorporated a lexical core of Spanish borrowings” during the mid-1700s as the native troops and slaves came into contact with the Mexican troops (1992:220). Second, in the late 1700s military and civilian Manila Bay creole speakers transferred to Zamboanga. He then estimates that the Hiligaynon elements were introduced into Chabacano during the 1800s, as a result of ships stopping in Iloilo on the way from Manila to Zamboanga. Lipski argues that decreolization began to take place in the late 1800s as Zamboanga Chabacano became closer to standard Spanish, but after the end of Spanish rule, Cebuano began to replace many Spanish-based lexical items. Finally, Zamboanga Chabacano after the 1930s, like other Chabacano varieties and Philippine languages more generally, is influenced by English. While Lipski (1992) does not deny that there was input from Cavite Chabacano early in the formation of Zamboanga Chabacano, many of the similarities between the Manila Bay and Mindanao varieties could possibly be attributed not only to direct contact, but also to the similarities between the contact situations, with Mexican Spanish-speaking troops in the north and the south each coming into contact with different, but very closely related, Central Philippine languages.

The origins of Cotabato Chabacano are also unclear. According to Riego de Dios (1989), there was a Spanish garrison in Tamontaka (near modern day Cotabato City), and

in 1861 the Jesuits decided to establish a Catholic village there with the goal of winning over Muslim converts. Between 1872-1875, they ransomed one hundred children from the local slave market and established an orphanage for them, where they were educated by priests and nuns in Spanish, but also encouraged to speak Maguindanao. More children and other families were added to this community over time. While there was some contact with Zamboanga Chabacano, Riego de Dios (1989:14) believes that Cotabato Chabacano creolized independently.

However, Fernández's (2012) discussion of a Cotabato Chabacano text found in Schuchardt's archive⁷ casts some doubt on Riego de Dios' (1989) account of how this Chabacano variety formed. According to Fernández (2012:302), "*el documento prueba que el chabacano de Cotabato ya existía y estaba plenamente formado hacia 1880*" ['the document proves that the Chabacano of Cotabato already existed and was fully formed by 1880']. The Chabacano in the document is very similar to Zamboanga Chabacano and has Visayan features. Further study of Cotabato and Zamboanga Chabacano origins are needed, but Fernández (2012:305) suggests the possibility that both varieties have their origins in a variety brought to Mindanao from the central region of the Philippines. There are historical references to *castellano visaya* 'Visayan Castilian', and a central origin would explain why the Mindanao creoles have such a strong Visayan (Hiligaynon) component, but little if any influence from the local languages of Zamboanga or Cotabato (e.g. Maguindanao, as in Riego de Dios' account).

⁷ The Hugo Schuchardt Archive at the Universität Graz (<http://schuchardt.uni-graz.at/>).

Davao Chabacano is not well described either, but according to Whinnom (1956:15-16) it formed as the result of direct migration from Zamboanga to Davao in 1900 or later. From Whinnom's description, it does not appear that Davao Chabacano was ever spoken by a large proportion of Davao residents, as there was also a large influx of Cebuano and Tagalog speakers in the area, which apparently formed another mixed variety called Davauño which was independent of Chabacano.

Further research on the origins of the Chabacano creoles and their relationships to each other is needed. However, based on the literature reviewed in this section, it seems that there is little historical or linguistic evidence of direct Portuguese or Portuguese pidgin and creole input into the Chabacano creoles (Lipski 1998, 1992; Fernández 2011), and that similarities between the northern and southern varieties can be explained by early Manila Bay input into Zamboanga Chabacano as well as the similarities between the substrate languages, given how closely related Tagalog, Hiligaynon, and Cebuano are to each other (Lipski 1992). The strong influence of Hiligaynon on the Mindanao creoles also needs to be further explained (Fernández 2012). Regardless of their initial formation, the Ternate, Cavite, and Zamboanga Chabacano communities have historically remained rather separate from each other, and although most speakers say that they can understand each other, they think of their communities and languages as being very distinct (Lesho & Sippola 2013, Sippola & Lesho 2013).

2.3 State of Chabacano research

Studies on Philippine-Spanish contact varieties date back to Schuchardt (1883), who wrote about *español de cocina* ‘kitchen Spanish’, aided by correspondence with Filipino intellectual Trinidad Pardo de Tavera. Terms like *español de cocina* or *español del trapo* ‘rag Spanish’ may refer to Spanish pidgin (Lipski 2001), but Fernández (2010) shows that the *español de cocina* examples provided to Schuchardt by Pardo de Tavera are Chabacano. There were also descriptions of Chabacano from the early 1900s. For Cavite Chabacano, Santos y Gomez (1924) documents sayings and folk tales, and German’s (1932) master’s thesis contains a grammatical description and sample texts. Tirona (1924) contains texts and a list of vocabulary in Ternate Chabacano.

Whinnom (1956) wrote the first general survey of the history and linguistic features of the Chabacano varieties as a group (see section 2.2.1). The same year, Miranda (1956) wrote a detailed (but unpublished) grammar of Cavite Chabacano, and McKaughan (1954) also wrote a sketch on Zamboanga Chabacano shortly before that. During the 1960s, two Caviteñas wrote master’s theses on Cavite Chabacano. Llamado (1969, 1972) wrote her thesis and a related article on Cavite Chabacano syntax within a generative framework, and Ramos (1963) did a contrastive analysis of Cavite Chabacano and English segmental phonology and phonotactics, with the goal of identifying potential problems for Chabacano speakers learning English. Focusing on Zamboanga Chabacano, Ing (1968) published what is still the most detailed phonological description of any Chabacano variety to date.

In the 1970s, Frake (1971) and Molony (1973, 1974) studied the origins of lexical items in Zamboanga and Ternate Chabacano, respectively, as discussed in the previous section. Frake (1980) later also published a description of the Zamboanga Chabacano verbal system. Forman (1972) published a grammar of Zamboanga Chabacano with sample texts, which has been cited by several recent studies on the typology of Iberian creoles or typology across creoles more generally (e.g. Lorenzino 2000; Holm 2001, 2008; Lipski & Santoro 2007; Klein 2006, 2011; Bakker et al 2011). It is also during this period that Riego de Dios published the first linguistic descriptions of Cotabato Chabacano (1976, 1979/1989). Her (1979) doctoral thesis was a comprehensive dictionary that included Cotabato, Zamboanga, Ternate, and Cavite Chabacano forms listed in each entry.

More recent work on Chabacano includes several articles by Lipski (e.g. 1986, 1987, 1988, 1992, 2013, to give a partial list), many of which have focused on the history and origins of the different varieties (as discussed in section 2.2.1), how they fit into Spanish dialectology, and how they are related to other Philippine-Spanish contact varieties. Steinkrüger has published several papers on Zamboanga Chabacano, often focusing on morphology (e.g. Steinkrüger 2003, 2009), and he also wrote a brief sketch of Ternate Chabacano grammar (2007). Sippola (2006, 2010a, 2011a, 2011b) has published on the linguistic features of Ternate Chabacano, and Sippola (2010b) focuses on education in Ternate, Cavite, and Zamboanga Chabacano. Her (2011b) doctoral thesis, based on extensive fieldwork, is a reference grammar of Ternate Chabacano, the most detailed description of any Chabacano variety to date. Sayas (1999) also published a

doctoral thesis on Ternate and Cavite Chabacano written in Tagalog, but it is very difficult to access.

Other significant works on Chabacano in the recent past include Fernández's detailed archival research on the historical origins of the different varieties (2006, 2010, 2011, 2012) and on various aspects of Chabacano grammar (2004, 2007, 2008, 2009). Grant (2002, 2007, 2009, 2011) has written several papers on Mindanao Chabacano structure and history, and Rubino (2008, 2012) examines substrate influence in Zamboanga Chabacano grammar. Quilis & Casado-Fresnillo (2008) also have a large volume on Spanish in the Philippines, which includes linguistic descriptions of the Chabacano varieties with sample texts and audio recordings. Most recently, Chabacano has been included in the *Atlas of Pidgin and Creole Language Structures* (APiCS) database (Michaelis et al. 2013). Data on Zamboanga Chabacano were contributed by Steinkrüger, and data on Cavite and Ternate Chabacano were contributed by Sippola.

Outside of linguistics, Filipino scholars from other fields and local language activists have also published materials on Chabacano. Romanillos is a literary scholar who has written about Cavite Chabacano poetry (2005, 2006), and Nigoza (2007) and Ocampo (2007) published books on the history, customs, and language of the Ternateños. There are also recent books published by Cavite Chabacano activists. The Asociacion Chabacano del Ciudad de Cavite published a trilingual Chabacano-Tagalog-English dictionary, and former teacher and superintendent Enrique Escalante has published a series of Cavite Chabacano textbooks (2005, 2010, 2012). These educational materials, as well as some Zamboanga Chabacano materials, are reviewed by Sippola (2010b). They

are further discussed in the context of Chabacano endangerment and language revival efforts by Lesho & Sippola (2013).

This review of the studies on Chabacano is not exhaustive, but it shows the general state of the literature over the past century. The volume of Chabacano studies has steadily been increasing in recent decades, and creolists are recognizing its importance in typological studies (as evidenced by the many recent citations of Forman 1972 and inclusion in APiCS), given its status as the only group of Spanish creoles in Asia. However, one problem is that much of the work done by Filipino scholars is exceedingly difficult to access outside of the Philippines. Most of the locally written theses or books are unpublished and are available only in one or two Filipino libraries (e.g. Santos y Gomez 1924, Tirona 1924, Ramos 1963, Sayas 1999, Miranda 1956, and still others not summarized here). German (1932) and Llamado (1969) are possible to access in the U.S., and Ing (1968) is available in the U.S. and in Europe, but they are all still difficult to obtain. Riego de Dios' (1979/1989) thesis and Barrios' (2006, 2012) work are exceptions in that they are readily available online. The lack of access to Philippine research is unfortunate because it means that there is a wealth of data and historical information that is inaccessible to most creolists or other linguists, and their work is usually cited by only a few specialists, if at all. This dissertation discusses many of the findings and examples from the phonological descriptions by German (1932) and Ramos (1963), which serves to make their research at least somewhat more accessible.

Much of the accessible Chabacano research has focused on Zamboanga Chabacano, the most widely spoken variety. However, Ternate, Cavite, and possibly

Cotabato Chabacano are in urgent need of documentation before they disappear like Davao and Ermita Chabacano already have. Lesho & Sippola (2013) characterize the state of documentation of Ternate and Cavite Chabacano as “fragmentary” on the UNESCO scale for that factor in language vitality. Sippola and Steinkrüger’s recent fieldwork in the Manila Bay area has contributed to further documenting these endangered creoles, and the study I am presenting here, along with other data collected during my fieldwork and ongoing collaboration with Sippola on other projects, also contributes to this goal.

The review of the literature also shows that Chabacano research focuses very heavily on the historical origins of the creoles and on their morphosyntactic properties today. Very little research has been done on the present-day sociolinguistic situations of either the Mindanao or Manila Bay creoles. Besides the studies on Chabacano education and endangerment discussed above (Sippola 2010b, Lesho & Sippola 2013), Fortunogenuino (2011) has also done fieldwork in Ternate, Cavite City, Ermita, Zamboanga City, and Davao to assess endangerment and vitality there. In terms of studies on linguistic variation across or within Chabacano varieties, so far there has been very little besides Riego de Dios’ (1989) comparative dictionary and some of Lipski’s work (1986, 2013). Phonological studies on Chabacano have also been relatively rare. Ramos’ (1963) master’s thesis on Cavite Chabacano and Ing’s (1968) dissertation on Zamboanga Chabacano are the only major works focusing on Chabacano phonology, and in addition to those there have been a few thesis or book chapters on different varieties (German 1932, Miranda 1956, Forman 1972, Sippola 2011), brief sketches (Riego de Dios 1989),

and a few articles (Ing 1967, 1976; Lipski 1986). There have never been any phonetic studies on Chabacano.

This dissertation aims to fill several of the gaps identified in Chabacano research. The data collected for this study during fieldwork contributes to the documentation of a severely endangered variety of Chabacano. This Chabacano study is the first to use sociophonetic methods to support the phonological description, and to use perceptual dialectology methods to study the folk perception of phonological and other kinds of linguistic variation.

2.4 Cavite Chabacano during the Spanish era (1571-1898)

2.4.1 *Early demographics*

The Spanish first arrived to Cavite in 1571, and established it as a province in 1614. At the time of arrival, the people there were under the rule of Rajah Soliman in Manila, but locally they lived in small communities situated along coastlines and waterways, each ruled by a *datu* ‘chief’ (Borromeo 1974). This small community unit was called the *barangay* (which also meant ‘boat’; Scott 2010). Below the *datu* class were the *timawa maharlika* ‘free men’ and the *alipin* ‘slave’ class (Borromeo-Buehler 1985). The province was sparsely populated when the Spanish arrived. A 1590 tribute record counted 1,480 people in the province (Borromeo 1974:22).

The area that is now called Cavite City (a name from the American era) was referred to by the Tagalogs as *tangway* ‘peninsula’ or *kawit* ‘hook’, which refers to the

shape of the land (Borromeo 1974:28). Because of its excellent harbor and location close to Manila, it naturally became a major port for the Spanish and the center of the galleon trade between Manila and Acapulco. Cavite City actually began as two separate towns, Cavite Puerto and San Roque, which were officially established in 1614. However, the galleon trade began before that in 1572, and shipbuilding began in Cavite as early as 1582 (McCarthy 1995:154).

Major population shifts took place after the Spanish claimed Manila and Cavite. Beginning in the late 1500s, the Spanish resettled the natives, whom they called *indios* ‘Indians’,⁸ from their isolated barangays into various towns around Cavite province in order to facilitate their conversion to Catholicism, and many were also relocated to work at the Cavite port. The population shift was accompanied by a change in the Philippine social class structure. The Spanish were at the top of the hierarchy, and the elite native class became the *principalia*, who occupied the lower rungs of the Spanish administration, mediating between the Spanish and the native masses (Borromeo-Buehler 1985).

The population of the province grew steadily and by 1620 there were 3,230 people: 2,400 natives, 430 Spanish (only 50 of whom were women), and 400 others (Borromeo 1974:36, Doeppers 1972:782).⁹ As a military and trading center, Cavite

⁸ *Filipino* was sometimes used by the Spanish to describe the native population, but it also meant a person of Spanish origin born in the Philippines. The term was not commonly used to refer to the whole population of the islands until the Philippine Revolution and the American colonization, and there are still some native ethnic groups who reject the term (Scott 2010:6-7).

⁹ The relatively small number of Spanish settlers is typical of the Philippine colonization. The Spanish never settled the islands as thoroughly as they did their other colonies, and the native population never suffered losses on the same catastrophic scale that those in the Americas experienced (Phelan 1959). As for the 400 others, Borromeo refers to them as “foreigners” and Doeppers as “slaves and Moluccans”.

attracted many people from other groups, especially Chinese traders and skilled workers. Borromeo (1974:29) also mentions the presence of a company of Malabars at the port. Doeppers (1972:780) mentions that small populations of Japanese Christians and Muslim Lascars were present in early Cavite, but were later absorbed into the native population.

The shipyard at Cavite Puerto required 1,400 workers or more (McCarthy 1995:154). Much of this labor was conscripted through the *repartimiento* or *polo* system,¹⁰ and the local pool of labor in Cavite had to be supplemented by conscription of natives from other regions. Borromeo (1974:47) cites a contemporary account (originally cited in de la Costa 1961) that mentions people from Tondo, Laguna, and Bulacan (Tagalog speakers) as well as from Pampanga (Kapampangan speakers) working at the port under oppressive conditions.

In addition to the native workers, there were also Chinese workers in the shipyard (Borromeo 1974, McCarthy 1995). Most of the Chinese immigrants to the Philippines in the early Spanish era came from Hokkien-speaking areas, and they far outnumbered the Spanish (Wickberg 2002:4-6). Eventually a Chinese-Filipino *mestizo* class formed, but new Chinese immigrants continued to arrive in the Philippines throughout the Spanish period. A term commonly used to refer to the Chinese was *sangley*, which is of uncertain origin, but may derive from Hokkien *siang⁵ lai⁵* ‘constantly coming (from China)’ or *sing¹ –li²* ‘trade’ (Klötter 2011:9).

¹⁰ *Repartimiento*, or *polo* in Tagalog, was a system of compulsory draft labor that was also used in Latin America. Laborers were supposed to receive token wages but often did not, and working conditions were often inhumane (Phelan 1959).

Borromeo (1974:49-50, 1985:71) also describes the Spanish population of Cavite. They were government administrators, priests, sailors, and soldiers, mostly of Mexican origin. However, there were some *peninsulares* ‘peninsular Spaniards’ (born in Spain) who were above the *criollos* ‘creoles’ (born in the Philippines or Mexico) in the social hierarchy. Many of the Spanish stayed in Cavite only temporarily, but some stayed there permanently. Borromeo (1974:49) calls them “mostly either vagabonds, mutinous soldiers and seamen serving a sentence, or men seeking a promotion they simply could not get in America or Spain”. Records in Mexico indicate that many of those who went to the Philippines came from Querétaro, Valladolid, Cuernavaca, Guanajuato, Acapulco, and Guadalajara (Borromeo 1974). According to Borromeo, it was the *guachinango* group of lower class Mexican soldiers with whom the natives interacted most frequently, apart from the priests.¹¹

The historical sources cited in this section make little to no mention of Spanish-Filipino mestizos, but given the low number of Spanish women in Cavite (Doeppers 1972:782), it seems likely that intermarriages occurred. Borromeo (1972) claims that Caviteños have more European physical features due to intermarriage. However, if the demographics were similar to those of Manila, then the number of Spanish mestizos must have been relatively low compared to other groups. According to Doeppers (1994:82), Spanish mestizos made up only 1-2% of the population in Manila during the late 1800s.

¹¹ By the 1700s, there were also many native and mestizo clergymen. In 1782, the priests of Cavite Puerto parish were listed as *mestizo sangley* ‘Chinese mestizo’ and *mestizo español* ‘Spanish mestizo’, and in San Roque parish they were *mestizo sangley*, *indio Pampanga* ‘native from Pampanga province’, and creole (Escoto & Schumacher 1976).

Given the demographic conditions of early Cavite, it seems likely that a pidgin and eventually a creole developed as the native laborers from different regions, Chinese workers and traders, peninsular and Mexican administrators and soldiers, and various other minority ethnic groups came into contact. While there were evidently people from India, the Moluccas, and China present in Cavite who may have known a Portuguese contact variety, they were far outnumbered by Philippine natives, and Borromeo (1974, 1985) makes no reference to “Mardikas” in her historical descriptions of Cavite. While it is possible that speakers of a Portuguese contact variety could have had some input in the contact situation, the complete relexification of a Portuguese pidgin or creole (if in fact those groups used such a variety, which is uncertain) does not seem to be a likely explanation for the origins of Chabacano, as Lipski (1988) and Fernández (2011) both argue. The demographic conditions of Cavite seem to have been ripe for the independent development of a Spanish creole, with or without any Portuguese input.

2.4.2 *Settlement history*

These different ethnic groups of Cavite co-existed within a very small area. Modern Cavite City is only 11 km², and in the Spanish era the peninsula was even smaller.¹² However, despite the proximity, the Spanish maintained social stratification by establishing Cavite Puerto and San Roque as separate towns. The Spanish lived in Cavite

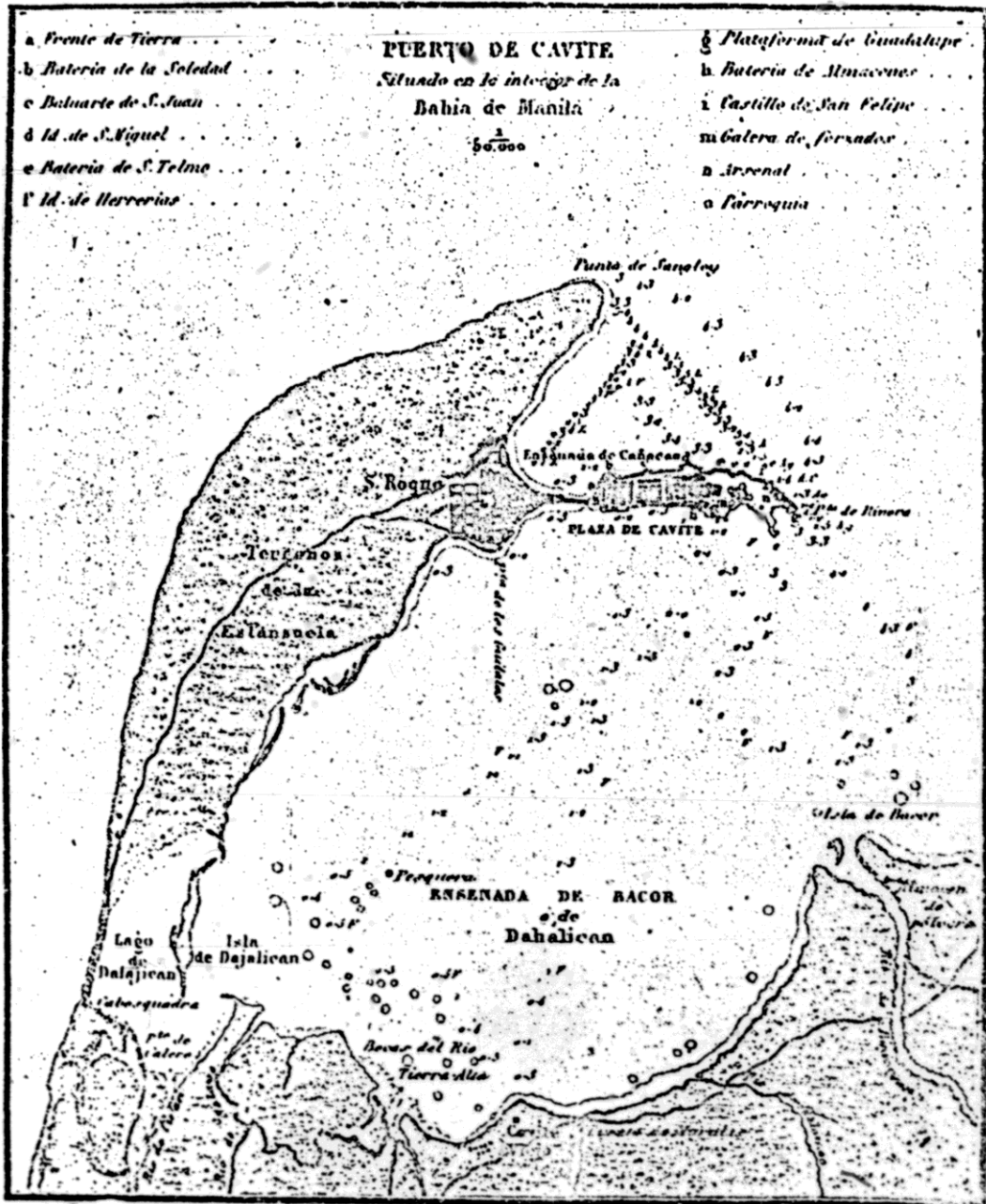
¹² Land reclamation projects have increased the size of the Cavite City peninsula over the past century, and there are current proposals to enlarge the area even further.

Puerto, and the *principalia* and the native laborers lived in San Roque (Doeppers 1974).¹³ These two towns were within a short walking distance of each other but were separated by a narrow isthmus and the Cavite Puerto walls. They were administered separately and were separate parishes.

This planned ethnic segregation was typical of Spanish settlement patterns in Mexico and the Philippines (Doeppers 1974:769, 777-778). The Spanish tended to establish *ciudades* ‘cities’ with adjacent *cabeceras*, small mission settlements populated by relocated natives who also served as the *ciudad* labor pool. Spaniards were forbidden from living in *cabeceras*, although that rule was not always strictly enforced. Manila also had a separate district for the Chinese called the *Parian* ‘market’, where trading took place. Some other cities, including Cavite, had smaller versions called *Pariancillos* (Doeppers 1972:779).

Map 3 shows the Cavite peninsula in 1852 (Borromeo 1974:26). San Roque (labeled *S. Roque*) and Cavite Puerto (above the label that says *Plaza de Cavite* ‘Cavite Square’) are on the lower of the two points jutting into Manila Bay, connected by a narrow isthmus just wide enough for a road. The other end of the hook is labeled *Punta de Sangley*, which is now called Sangley Point. The area labeled *Estanzuela*, on the main body of the peninsula, was also referred to as Caridad. This area was formerly an *hacienda* ‘estate’ that fell under the administration of San Roque until 1868, when Caridad was officially established as a separate town.

¹³ It seems possible to me that after this early period, some elite Filipinos eventually also lived in Cavite Puerto, especially Spanish mestizos, since women took on the social class of their husbands. However, I have not yet found a source that describes where Spanish mestizos lived. There are participants in this study whose families lived in Cavite Puerto before World War II, but I do not know if they lived there during the Spanish period or moved there after the arrival of the Americans.



142. Cavite (1852).

Map 3. Cavite peninsula in 1852 (from Borromeo 1974:26)

2.4.3 *The late Spanish period*

During the 1800s there were significant changes in the political situation of the Philippine colony. Mexico became independent in 1821, meaning that the Philippines were no longer administered as part of that territory. A wave of peninsular Spaniards came to the islands to take over administration, bringing their different and more prestigious variety of Spanish, which influenced the way Cavite Chabacano and Philippine Spanish were spoken (Lipski 1986, 1987). The 1800s were also marked by changes in the social class structure of Cavite and the Philippines more generally. According to Borromeo-Buehler (1985), the two-tiered class system of the *principalia* and lower class natives gave way to a three-tiered system with a new middle class group, the *inquilinos* (leaseholders of agricultural land), beginning in the late 1700s. During that period, the political positions traditionally held by the *principalia* became elected rather than appointed, and groups from the lower tiers were able to raise their class status and gain political power. By the latter half of the 19th century, the *principalia* had split into the upper and middle class, which now included many Chinese mestizos and some native *timawa* descendants (Borromeo-Buehler 1985:94). The new upper and middle class became well educated in Spanish, especially after education was secularized in 1863. The term *ilustrados* ‘enlightened’ was used to refer to this new elite group of wealthy, educated Spanish-speaking mestizos and natives.

The Chinese-Filipino mestizos rose to socioeconomic and political power (Wickberg 2002, Gealogo 2005) despite the fact that they were a relatively small proportion of the population. By 1860, they made up around 1% of the population in

Cavite Puerto and nearly 10% in San Roque (Gealogo 2005:339). San Roque had one of the highest concentrations in the region of mestizos who held the office of *cabeza de barangay* ‘barangay captain’ (Gealogo 2005:316), which is evidence of their political power. As described by Wickberg (2002) and Fernández (2011), this fact is significant because Chinese mestizos played an important role in spreading Spanish and Chabacano culture and language, and also in the movement for independence from Spain. Many of the *ilustrados* were Chinese mestizos from Cavite province. Cavite Puerto and San Roque, along with other nearby towns, played a central role in the Propaganda Movement (1880-1896) and the Philippine Revolution of 1896. This is why for modern Cavite City, national pride is also local pride. The city celebrates its role in important historical events such as the Cavite Mutiny of 1872, the *Trece Martires* ‘Thirteen Martyrs’ incident of 1896, and the composition of the national anthem by local musician Julian Felipe.

2.5 Cavite Chabacano after the Spanish era (1898-present)

2.5.1 *The fall of Spanish and the rise of English and Filipino*

The Philippines did not gain independence after their fight for freedom from the Spanish. Instead, the U.S. defeated Spain in 1898 (in what they called the Spanish-American War) and took the Philippines as its territory along with Cuba and Puerto Rico. This shift in power from the Spanish to the Americans had a strong effect on the language contact situation of Cavite. The Americans established military bases in Cavite Puerto and Sangley Point, and maintained presence there until 1971, even after Philippine

independence in 1946. The American presence influenced Cavite strongly at the local level because many Caviteño workers were employed by the U.S. navy in both military and civilian roles. This close contact means that most Caviteños, even older residents and those who have little formal education, are highly proficient in English. At the national level, American influence also led to the eventual establishment of English as one of the country's official languages.

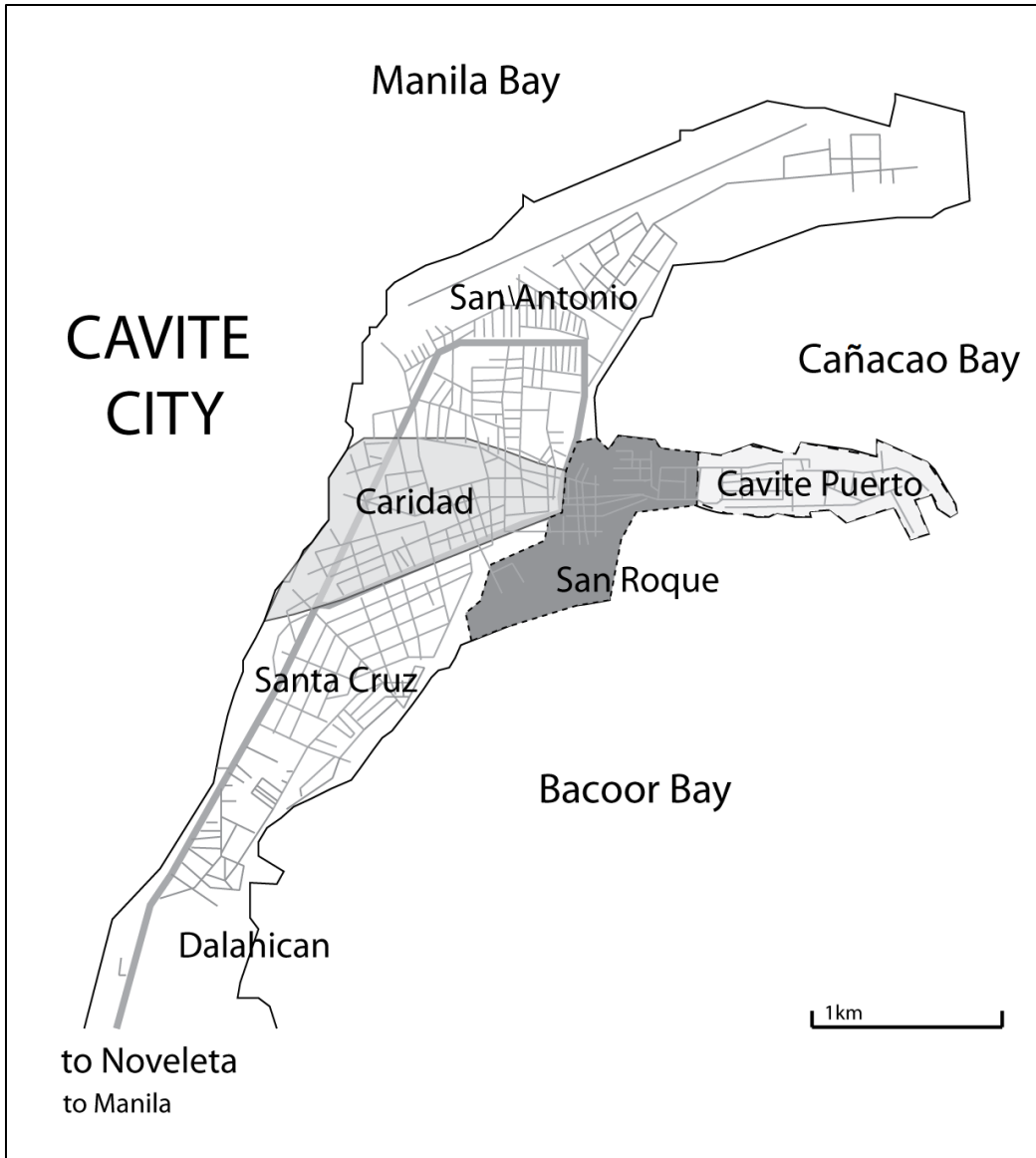
The change from Spanish to American power coincided with a rise in nationalism as the Philippines moved toward independence. In 1939, Tagalog was designated the *Wikang Pambansa* 'National Language'. The national language was renamed Pilipino in 1959 and Filipino in 1971 in order to make it more inclusive of other ethnolinguistic groups in the country. Filipino is supposed to include elements from other Philippine languages, mostly vocabulary, but grammatically and lexically it is mostly still Tagalog (Gonzalez 1998:487-488). Filipino and English were made co-official languages in both the 1973 and 1987 Constitutions. Spanish, meanwhile, maintained some influence in the legal and education systems until World War II, but this influence waned over the course of the century (Lipski et al. 1996). Two to four years of Spanish classes were required at the college level until the 1987 constitution designated Spanish, along with Arabic, as a voluntary language.

2.5.2 *Cavite City during American rule and Philippine independence*

In 1903, Cavite Puerto, San Roque, and Caridad were united into the Municipality of Cavite, and San Antonio district and the island of Corregidor (at the entrance to Manila

Bay) were later added to it. The status of the municipality changed to that of a city in 1940, and the town then became known as Cavite City. Map 4 shows the layout of Cavite City today, with its five official districts: Caridad, San Roque, San Antonio, Santa Cruz, and Dalahican. The “Cavite Puerto” label on the map is used only to show where the old Spanish town once was. This area is now usually called “PN”, which stands for “Philippine Navy”. City Hall is located in the Cavite Puerto/PN area, and the Philippine naval base is at the end of the peninsula. Much of San Antonio is also a military base. Below the district level, the city is further subdivided into eight barangay zones and 84 barangays.

Map 4 shows that San Roque and Cavite Puerto have the same locations that they did in Map 3 in 1852, but the isthmus that once separated them has been widened, and the Cavite Puerto walls are now gone. Modern Caridad is somewhat smaller than it was in the Spanish era. About half of the old Estanzuela *hacienda* is now the Santa Cruz district.



Map 4. Present-day districts of Cavite City

Chabacano and Spanish were still spoken in Cavite during the early half of the 1900s. However, World War II caused serious damage to Cavite, and many Caviteños had to leave the city. Cavite City was occupied by the Japanese from 1941-1945, and

when the American forces took it back, Cavite Puerto and Sangley Point were heavily bombed, destroying many of the Spanish-era structures there. According to Whinnom (1956:12), the Chabacano speakers of Cavite Puerto who returned after the war resettled in Caridad.

As discussed in the review of Cavite history during the Spanish era, the Chinese-Filipino mestizos of San Roque gained wealth and political power during the 1800s and played an important role in the Philippine Revolution. The shift of power from Cavite Puerto to San Roque seems to have continued during the American era. For example, Pangilinan (1926/2001:345) lists all of the municipal presidents between 1903-1922 (including himself), and most of them can also be found in his list of old San Roque families (2001:59-81). Other examples of prominent San Roque natives include Manuel Rojas, who was a prominent politician from a mestizo family who served as a Congressman and as city mayor, and another descendant of the Rojas family, Bernardo Paredes, who is the mayor of the city today.

However, influence from the old Spanish practice of segregation apparently persisted for quite some time. According to Cordero-Fernando in 1992, some older Caviteños still made a distinction between those who are *de clase* ‘of class’ (i.e. those who lived in Cavite Puerto before the war) and those who are *de afuera* ‘from outside’ (i.e. San Roque and Caridad). Those from Cavite Puerto “spoke a Spanish-Tagalog Chabacano which they considered ‘purer’ than the *Chabacano* of *de afuera*, those who lived outside the walls, among whom, horrors! there could be *tulisanes* [‘robbers’], cattle rustlers, bandits and assorted hotheads.” She quotes one resident as saying, “I can still tell

the difference – between the *de clase* intonation and the fisherman’s intonation, and so forth”.¹⁴ This statement indicates that some of the social stratification imposed by the Spanish was still in place at the time of Cordero-Fernando’s essay.

Comments similar to those quoted by Cordero-Fernando are still common in Cavite City today. Cavite Puerto is not as often mentioned anymore, but during fieldwork I was repeatedly told that there are four main *barrios* ‘neighborhoods’ where Chabacano is still commonly spoken, and that they all have different “intonations” or accents. These comments often included imitations of people from these neighborhoods that seemed to indicate differences in vowel pronunciation, which was part of the motivation for focusing on the vowel system in this dissertation. The neighborhoods that are said to have different accents are Calumpang in Caridad and Cagayan, Ganglely, and San Jose in San Roque. Another area of Caridad called Cabuco has also been mentioned as a Chabacano-speaking *barrio* in the previous literature on Cavite Chabacano (Fortuno-Genuino 2011). Cabuco is the name of a street that runs through Calumpang, but it sometimes seems to be used as a neighborhood name as well.

Since the war, Cavite City has been affected by population shifts that have contributed to the endangerment of the language (Lesho & Sippola 2013). In interviews with Cavite residents today, they attribute the decline of Chabacano to the encroachment of outsiders. There are three kinds of non-native Caviteños that people often mention: spouses of Caviteños from other towns or regions who never learned Chabacano, Muslims or Visayans (i.e. people from the south and central Philippines) who came to

¹⁴ The person Cordero-Fernando (1992) quoted was also one of the participants in my study. She was one of the few people I met who grew up in Cavite Puerto before the war.

Cavite to find work, and people from other regions who are stationed at the Philippine military bases. In addition to the influx of non-Chabacano speakers to the city, many Caviteños have left the city to work in Manila or other areas in the Philippines, or abroad as Overseas Filipino Workers. Some return to the city after working abroad in places like the U.S., Canada, and the Middle East, but others relocate permanently. There is a particularly large community of Caviteños in San Diego, California.

2.5.3 Cavite Chabacano endangerment

Cavite Chabacano is now a minority language in Cavite City, and Spanish is spoken by only a few. Population estimates by Whinnom (1956:12), Llamado (1969:3), and recent censuses show that the language has declined steadily over the past century (Lesho & Sippola 2013). Whinnom reported 18,000 speakers left in 1956, and Llamado reported 8,000 in 1969. Using the UNESCO (2003) scale for assessing language vitality, Lesho & Sippola (2013) found that Cavite Chabacano is severely endangered today. Most speakers of the language are of the grandparental generation or older. Philippine census data about language use is not very reliable, but based on the 1995 and 2010 censuses, we estimated that there are only around 3,000 remaining Chabacano speakers out of a total city population of 101,120, or about 3% of the population (Lesho & Sippola:8, 10-11). Most of these speakers live in San Roque and Caridad. San Roque has a total population of 19,344 and Caridad has 28,045 (Cavite City Planning and Development 2010), so Chabacano speakers are a small minority even in those areas.

The domains of Cavite Chabacano usage are very limited (Lesho & Sippola 2013:9, 13-14). It is mostly used in private domains, but even in the home, it is usually only the eldest members of the family (i.e. great-grandparents, grandparents, and the eldest siblings of the parental generation) who are still completely fluent in the language. In such cases, Tagalog is the main language of the household. Of the people interviewed for this study (see also Lesho & Sippola 2013), a few speakers reported having children or grandchildren who speak Chabacano, and the youngest participant, a 20-year-old, said that he had a few Chabacano-speaking friends in his neighborhood. However, it is clearly not the norm for young Caviteños to speak Chabacano. Another participant reported that her 14-year-old son spoke Chabacano when he was little, but stopped after he began attending school with his Tagalog-speaking friends.

In public domains, Chabacano is mostly relegated in ceremonial contexts. For example, Chabacano greetings are posted in some businesses, and there are festivals with Chabacano names, such as the *Regada* (a water festival for San Juan), the *Comelona* (a Caviteño food festival), and the *Juego Caviteño* (a demonstration of traditional children's games). Chabacano is also often used in religious contexts. Until recently, there was a Chabacano Mass held at the San Roque church on the second Saturday of every month, delivered by a Spanish-speaking priest using materials translated by Chabacano members of the church. However, Chabacano Mass is no longer held because the priest moved to another church. Chabacano essays, song lyrics, stories, and poetry can also be found in almost every program written for the *fiesta* 'feast day' for the patron saint of San Roque, although most of the material in each program is written in English and Tagalog. These

writings always have topics related to religion, historical events that occurred in Cavite, or nostalgic reflection on what it was like to grow up in Cavite City before the war.

Tagalog/Filipino and English dominate the domains of the media (television, radio, and internet), local and national government, and the school system. The Cavite City government passed an ordinance in 2011 that authorized Chabacano as an auxiliary language in schools. However, teachers have not been trained in teaching in Chabacano, and no Chabacano educational materials have been developed for children. Chabacano classes for children and adults are sometimes taught outside of the regular school system by two retired teachers, but their attendance is very low (Lesho & Sippola 2013:18).

In general, attitudes toward Chabacano are quite positive at both the institutional and community levels. Members of the city government have been supportive of Chabacano research, and the Cavite City Tourism Council has been trying to promote Chabacano as part of the unique history and culture that the city has to offer. Many members of the city government are themselves Chabacano speakers. However, positive attitudes do not always translate to very much institutional support. For example, part of the 2011 ordinance that authorized the use of Chabacano in education also mandated that English or Tagalog public signs around Cavite City be replaced by Chabacano ones. This project does not seem to have ever been implemented, so the ordinance was mostly symbolic.

Similarly, at the community level, attitudes toward Chabacano are positive. There are groups such as the Cavite Historical Society, the *Asociacion Chabacano del Ciudad de Cavite* ‘Chabacano Association of Cavite City’, and *Chabacano Siempre!* ‘Chabacano

Always!’ that work to promote the language. Every year there is a *Dia de Chabacano* ‘Chabacano Day’ held to celebrate the language. However, outside of these groups (which do not seem to include very many younger Caviteños), support for the language is mostly passive. People of the parental generation or younger express interest in Chabacano, but English and Tagalog dominate pop culture, local and national institutions, and the job market. Local colleges are geared toward preparing students for jobs in nursing or hospitality management, which are marketable to employers in Manila or overseas. During fieldwork, one man in his early 40s told me that he wished he could speak Chabacano, but he thought that “Arabic is easier than Chabacano”. The reason is that he periodically works in the Middle East, where he has to practice using Arabic on a daily basis, but when he is back home it is easier to just speak Tagalog or English. While Chabacano is viewed positively and seen as part of local identity, the outlook toward it is mostly nostalgic as Caviteños, like Filipinos elsewhere in the country, have moved toward a more national and global orientation.

2.6 Cavite Chabacano phonology

This section first describes previous work on the phonology of Cavite Chabacano and other Chabacano varieties, and then discusses the phonetics and phonology of the superstrate Spanish and the substrate Tagalog. The sound systems of the input languages are reviewed in order to identify potential phonetic or phonological features that may have shaped the sound system of Cavite Chabacano.

2.6.1 Previous studies on Cavite Chabacano phonology

Ramos (1963) has the most detailed previous description of Cavite Chabacano phonology. Other phonological descriptions of Cavite Chabacano can be found in three chapters by German (1932), one brief chapter by Miranda (1956), and a brief sketch by Romanillos (2006). Lipski (1986, 1987) also mentions Cavite Chabacano in comparisons of a few phonological features in Spanish and the Chabacano varieties. In this section, I give a brief overview summarizing the main findings of these different works, including the consonants, vowels, and prosodic features identified by them, in order to contextualize the motivation and goals of this dissertation. A more detailed description of Cavite Chabacano phonology, including examples from these sources as necessary along with my own work, is in Chapter 5.

Ramos (1963) collected her data by observing spontaneous conversation in public places and making lists of the Chabacano words that she heard. To check the transcriptions of the words in these lists, she later elicited the same set of words from four other native speakers. Ramos then identified the distinctive phonemes of the language by finding minimal pairs showing contrast between sounds, and described the distribution of each phoneme in different environments. She compared the phonemes and phonotactic patterns of Chabacano to those of English in order to identify differences between the languages that might cause difficulty for L1 Chabacano speakers learning English. Over half of the thesis consists of a large appendix (109 pages) that lists Chabacano words along with their Spanish sources, phonemic transcription, and English translation.

German (1932) took a more historical approach in his description of Cavite Chabacano phonology by focusing on how certain sounds and words in the creole are pronounced compared to their sources in Spanish and Tagalog. He did not specify his methods, but like Ramos (1963), he also has a very large appendix that is a 104-page word list. His list includes Chabacano words, their parts of speech, and their Spanish sources, usually without English translation.

Miranda's (1956) and Romanillos' (2006) descriptions are only brief sketches, and they do not describe their methods or sources of data. However, some of their observations are similar to those of Ramos (1963) and German (1932) and are relevant to the description of the vowel system in this dissertation, so they will also be included in the summary below. Lipski's (1986, 1987) articles were based on fieldwork and describe Chabacano in terms of what its features reveal about Spanish historical phonology and modern dialectology.

2.6.1.1 Cavite Chabacano consonants

Ramos includes 17 consonants in her description of the Cavite Chabacano phonemic inventory (1963:78). In the transcription system she uses, they are the following: /p, t, k, b, d, g, ch, m, n, ng, s, h, l, y, w, r, rr/.

Ramos (1963) describes the stops /p, t, k, b, d, g/ as unaspirated and not having any variation in how they are realized. The affricate she transcribes as /ch/ is described as sounding more like a combination of /t/ and /s/ as she claims Tagalog has, "rather than /t/ and /ʃ/ as in English" (1963:30). She lists /s/ and /h/ as the only fricatives, and the nasals

as /m/, /n/, and /ɲ/. She does not include /ɲ/, which is found in Spanish, among the Cavite Chabacano nasals. She transcribes words that have /ɲ/ in Spanish as having a cluster /ny/ (or /nj/, in standard IPA) in Cavite Chabacano (e.g. in *cañon* ‘cannon’). Ramos recognizes a distinction between two types of rhotics, which she transcribes as /r/ and /rr/. She describes /r/ in her notation as a retroflex sound, and /rr/ as “multiple” (i.e. a trill). They are contrastive, but the trill occurs only in syllable onset. The retroflex alternates with /l/ “before accented syllables and followed by a single consonant sound” (1963:45). She lists no lateral other than /l/, and transcribes the initial sound in words like *llamá* ‘to call’ as a consonant cluster /ly/ rather than a single phoneme /ʎ/ as in Peninsular Spanish. In addition to these sounds are the glides /w/ and /y/ (/j/ in IPA).

German (1932) and Miranda (1956) do not list a full inventory as Ramos (1963) does, but rather focus only on certain points of interest related to how certain Chabacano pronunciation differs from Spanish or Tagalog. According to German (1932:17), Cavite Chabacano consonants “are composed of all Spanish consonants with the addition of Tagalog ng”, but he does not describe some of the sounds that are phonemes in Spanish, such as /ɲ/ or the tap/trill distinction, and it is unclear whether he considers /ʎ/ to be part of Chabacano. However, German makes a number of interesting observations about how certain Chabacano sounds compare to their Spanish and Tagalog sources, with detailed examples.

One historical observation that German (1963:13) makes is that Cavite Chabacano sometimes retains the pronunciation of Old Spanish /h/, which is written as <h> but is no longer pronounced in most modern Spanish dialects. For example, *hablá* ‘to talk’ < Sp.

hablar can be pronounced with or without the initial /h/, which German also spells as *jablá* to indicate a pronounced /h/. He notes that the preservation of /h/ is also found in some dialects in New Mexico, Buenos Aires, Ecuador, and Chile (1932:23). German also mentions variation in the pronunciation of coda /s/ as [s] or [h], which is further discussed by Lipski (1986) in relation to the widespread aspiration of /s/ in several Spanish dialects. He also makes an observation, not found in Ramos (1963) and that I have not observed in modern Cavite Chabacano, that there was assibilation or aspiration of /r/ before /l or /n/, e.g. *adorno* ‘decoration’, which he also writes as *adóh-no*, and *cisní* ‘to sift’ (< Sp. *cernir*), which he also writes as *cih-ní*. Another observation of his is that Chabacano does not distinguish between /θ/ and /s/ (written as <c> or <z> and <s>), which is also characteristic of Andalusian Spanish. He also mentions a few phonological processes that have historically affected a few Chabacano forms, for example, the metathesis of /r/ and /d/ in *marudu* ‘ripe’ (< Sp. *maduro*).

With respect to sound changes from Tagalog to Chabacano, German (1932) also makes some interesting observations. For example, he describes final /b/, /d/, and /g/ in Tagalog words changing to [p], [t], and [k] in Chabacano in final position, as in *tayakat* ‘stilt’ (< Tag. *tayakad*). Another example he gives of Chabacano differing from Tagalog is the word *kislat* ‘lightning’ instead of *kidlat*, which he also transcribes as *kih-lat*. Unlike his examples of Spanish-based words, he does not explain the origin for these differences from Tagalog pronunciation. One possible explanation for *kislat* is that it is actually a Cavite Tagalog dialectal form that differs from Manila Tagalog. Medina (2001) includes the form *kirlat* in his glossary of Cavite Tagalog forms, which also could be written as

kih-lat in German's transcription style, according to the rules he described for Cavite Chabacano pronunciation.

Miranda (1956) makes many of the same observations found in Ramos (1963) and German (1932), including the preservation of Old Spanish /h/, the alternation between /r/ and /l/ at the end of a syllable, and the adaptation of Spanish /f/ as /p/ in Cavite Chabacano. Romanillos (2006) also has brief comments on Cavite Chabacano consonants. He claims that there is no trill /r/ (2006:3), and that speakers pronounce what he transcribes as /ch/ as in Spanish “with hardly any difficulty”, whereas Tagalog tends to use /ts/ in Spanish loanwords (e.g. *kot-se* < Sp. *coche* ‘car’). This statement is not quite accurate, since modern Tagalog speakers do tend to use [tʃ] instead of [ts] (McFarland 2000:52), although this variant appears to be a relatively recent innovation. Romanillos also makes the puzzling statement that “the lisp is prevalent” in words like *rezá* ‘pray’ and *ciudad* ‘city’ (2006:3), presumably referring to the use of /θ/ for <z> and <c>. This is not inaccurate, as /θ/ is found only in north-central Peninsular Spanish, and contradicts all other descriptions of Cavite Chabacano. However, according to Lipski (1986), /θ/ is found in non-creolized Philippine Spanish. Lipski also describes Philippine Spanish, as well as Cavite and Zamboanga Chabacano, as having /ʎ/ distinct from /j/. He finds that modern Cavite Chabacano has some coda /s/ aspiration, as described by German (1932), but finds that it occurs at a very low rate compared to other Chabacano varieties.

2.6.1.2 Cavite Chabacano vowels

All previous descriptions of Cavite Chabacano agree that the language has five distinct vowels, /a, e, i, o, u/ (German 1932, Miranda 1956, Ramos 1963, Romanillos 2006). According to German (1932:10), these five vowels are used in Cavite Chabacano “in the same way and with the same sound-value given to them in Spanish.” In addition to these monophthongs, Ramos (1963) also lists four diphthongs, which she transcribes as /ay, ey, oy, aw/. The previous descriptions also mention that [e] and [i] are often interchangeable, as are [o] and [u], but they account for the patterns of alternation in different ways both linguistically and historically. Some descriptions mention that the raising of the mid vowels is characteristic of the Chabacano of San Roque district, particularly in final position (German 1932, Miranda 1956, Romanillos 2006). This alternation between the mid and high vowels is one of the primary focuses of this dissertation.

Ramos (1963) shows that [i] and [u] are allophones of /e/ and /o/, respectively, and describes them as occurring in free variation “in accented and unaccented syllables, final and nonfinal position”, although there are minimal pairs such as *mesa* ‘table’ and *misa* ‘Mass’ that contrast in the accented syllable (1963:63-66). However, German’s (1932) description showed that the mid and high vowels are not in free variation. While the mid vowels of Spanish verbs are systematically raised to high vowels regardless of stress (e.g. *vini* ‘to come’ < Sp. *venir*, *cumi* ‘to eat’ < Sp. *comer*), in other classes of words /e/ remains distinct from /i/ and /o/ from /u/ in stressed position. He describes the raised [i] and [u] variants of the mid vowels as occurring in pre-tonic or post-tonic

position. He mentions that the San Roque district in particular tends to pronounce post-tonic /e/ as [i], which he compares to similar patterns in Asturian, Leonese, and New Mexican Spanish (e.g. [notʃi] for *noche* ‘night’; 1932:12-13).

German (1932:13) also points out that both the stressed and unstressed /o/ of Tagalog-based words are pronounced as [u] in Cavite Chabacano (e.g. *bansut* ‘stunted’ in Chabacano, but *bansot* in Tagalog). He also gives examples of Chabacano /i/ corresponding to Tagalog /e/, as in Chabacano *ubi* ‘purple yam’ and Tagalog *ube* (1932:12). However, he does not note that the high vowel variants are actually characteristic of older Tagalog and can still be found in some southern dialects today (e.g. Marinduque Tagalog; Soberano 1980). Cavite is part of the Southern Tagalog region, so these variants appear to reflect more conservative Tagalog pronunciation.

Miranda’s (1956) description of the vowels of Cavite Chabacano is very brief, but he mentions that /e/ and /o/ are pronounced as [i] and [u] especially in final position. In Romanillos’ (2006:10) sketch of Cavite Chabacano, he writes that Chabacano in Caridad and Cavite Puerto sound more like Spanish compared to Chabacano in San Roque because people in the latter district tend to raise the mid vowels.

2.6.1.3 Cavite Chabacano prosody

The previous descriptions of Cavite Chabacano vowels suggest that their pronunciation varies according to stress and phrasal position, indicating that word-level and phrase-level prosody are both factors that should be considered in the present phonological and phonetic description of the vowel system.

All previous descriptions indicate that Chabacano has lexical stress. Ramos (1963) provides examples of minimal pairs that differ only in stress, e.g. *cása* ‘house’ and *casá* ‘to marry’. Her description does not specify what the acoustic correlates of accent or stress are. She claims that there is “no vowel length in Chabacano”, as all vowels occur “with the same amount of duration, stressed or unstressed” (1963:76). She seems to be referring to the phonetic duration of the vowels, rather than phonological vowel length contrast. Ramos also claims that the vowels “are all sounded and never obscured” (1963:79). By “never obscured”, it seems that she may be referring to a lack of vowel reduction, especially since she is comparing the Chabacano vowels to English vowels, which are often reduced when they are unstressed. No phonetic studies of Chabacano have ever been done, so these are claims that should be investigated acoustically.

2.6.2 *Phonological studies of other Chabacano varieties*

Studies on Cavite, Ternate, Cotabato, and Zamboanga Chabacano indicate that the phonological systems of the different Chabacano varieties are very similar to each other. All varieties are described as having five-vowel systems. The consonant inventories seem to be mostly similar, but there are a few small differences in the analyses for each variety, as the following review will show. Phonetic studies would probably reveal more differences between the different Chabacano varieties

According to Sippola (2011:39-40), Ternate Chabacano has a five-vowel system, but like Cavite Chabacano, there is mid vowel raising in unstressed positions. Sippola attributes the raising of /e/ and /o/ to possible influence from the three-vowel system of

Old Tagalog and also to similar mid vowel raising in nonstandard varieties of Spanish. Cotabato and Zamboanga Chabacano do not have as much mid vowel raising compared to Ternate and Cavite Chabacano (Riego de Dios 1978), but Ing (1967:27) indicates that Zamboanga Chabacano sometimes has it in nonfinal unstressed position (e.g. *kóche* ‘car’ and *kalésa* ‘coach’, but *kuchéro* ‘coachman’ and *kaliséro* ‘coachman’).

Sippola (2011) lists 17 consonants in the Ternate Chabacano inventory: /p, t, k, b, d, g, ʔ, tʃ, s, h, m, n, ŋ, r, l, j, w/. This is not quite the same set of 17 consonants that Ramos (1963) lists for Cavite Chabacano. Sippola does not include the tap and trill as separate phonemes, as Ramos does, and she counts the glottal stop as a phoneme, which Ramos does not. Another notable feature of Ternate Chabacano phonology is that most speakers do not distinguish between /j/ and /ʎ/, as other Chabacano varieties do.

Ing (1976) analyzes Zamboanga Chabacano as having 21 consonants: /p, t, k, b, d, g, ʔ, tɕ, dʒ, s, ɕ, h, m, n, ŋ, ɲ, r, l, ʎ, j, w/.¹⁵ The higher number compared to the descriptions of Cavite and Ternate Chabacano is due to the inclusion of /ʎ/, /ɲ/, /ɕ/, and /dʒ/ as distinctive phonemes. However, /ɕ/ and /dʒ/ seem to occur mostly in English loanwords, and the sounds are otherwise allophones of /s/ and /d/ before /i/, as in *diente* [dʒente] ‘tooth’ and *ciento* ‘hundred’ [ɕento] (Ing 1968:67). The tap and trill are not analyzed as distinct phonemes. Riego de Dios (1989) counts 20 consonants in Cotabato Chabacano: /p, t, k, b, d, g, ʔ, tʃ, dʒ, s, h, m, n, ŋ, ɲ, r, l, ʎ, j, w/. /dʒ/ seems to occur only in English loanwords. The difference from Zamboanga Chabacano is that she does not count /ɕ/ (or /ʃ/) as a phoneme. Unlike Ramos (1963) for Cavite Chabacano, she does not

¹⁵ Ing (1968, 1976) uses /tɕ/ and /dʒ/ where other Chabacano descriptions use /tʃ/ and /dʒ/. He describes the affricates as alveo-palatals that are realized as [tʃ] and [dʒ] before back vowels (1968:67).

recognize a tap/trill distinction in Cotabato Chabacano, or in Cavite Chabacano in the entries of her comparative Chabacano dictionary.

Ing (1968) offers the most detailed description of prosody in any Chabacano variety. However, some of the claims need to be investigated acoustically. He describes stress as realized through pitch prominence, and claims that Chabacano is stress-timed but has vowels that “receive relatively their full values in all positions”, in comparison to English (1968:180). He claims that this lack of unstressed reduction is also found in Visayan, Tagalog, and Spanish. As with Ramos’ (1963) similar claim about Cavite Chabacano, the comparison to English may obscure the description of Chabacano vowels somewhat. Tagalog actually does have some unstressed vowel reduction, unlike Spanish (see 2.6.3 and 2.6.4), so investigating Chabacano acoustically, without comparison to English, will reveal to what extent unstressed vowel reduction occurs, if at all.

Prosody above the word level is not well studied for any of the Chabacano varieties, but Ing (1968) includes some descriptions of how lexical stress in Zamboanga Chabacano is realized in compound words, short phrases, and longer sentences. He describes stress as often neutralized in phrases above the word level, with only the last word of a sentence or phrase receiving its typical pitch prominence. Ing also has a fairly extensive description of the tunes of different utterance types in Zamboanga Chabacano. Sippola (2011) has a shorter description that includes graphs with F0 contours for different types of utterances drawn from spontaneous speech in Ternate Chabacano, which is the only use of phonetic data that has been published on Chabacano so far.

Comparative phonological studies are needed to further investigate to what extent the different Chabacano varieties are similar to or different from each other. Studies using phonetic methods would also probably reveal more differences between the Chabacano varieties, especially between the Mindanao and Manila Bay varieties, given the history of contact with different substrate and adstrate languages in those regions. This dissertation is a first step toward using sociophonetic data to analyze the vowels of Cavite Chabacano, establishing methodology and a basis of comparison for future studies on other Chabacano varieties.

2.6.3 *Spanish phonology and phonetics*

2.6.3.1 Dialectal Spanish input into Cavite Chabacano

There were at least two types of Spanish spoken in Cavite during different eras of the colonial period, due to how the Spanish governed and settled the Philippines. The primary influence on Chabacano until the early 1800s was Mexican Spanish. After Mexican independence, the Spanish input in the Philippines became more peninsular as the colony was governed directly by Spain rather than indirectly through Mexico. The linguistic consequences of these different layers of Spanish contact are evident in both Chabacano and Tagalog. For example, both have many loanwords that are clearly Mexican in origin. Words like *kamote* ‘yam’ and *tiyangge* ‘market’ are originally from Nahuatl by way of Mexican Spanish, and there are other such Mexicanisms and indirect borrowings from other languages of the Americas as well (Albalá 2003).

Phonologically, as German (1932) described in his thesis, many of the features of Chabacano, such as /s/ aspiration in coda and the pronunciation of Old Spanish /h/, are also found in varieties of Mexican and New Mexican Spanish, as well as others in southern Spain and the New World (see also Penny 2000). However, some of these features seem to have decreased in frequency after contact with north-central Peninsular Spanish. For example, /s/ aspiration in modern Cavite Chabacano is no longer very productive, and there is now a distinction between /k/ and /j/ (Lipski 1986). In contrast, Ternate Chabacano, which is spoken in a more isolated area that had less contact with peninsular Spaniards, has higher /s/ aspiration rates and does not have /k/ as a phoneme.

2.6.3.2 The Spanish vowel system

Spanish has a 5-vowel system of /i, e, a, o, u/. Vowel quality has been reported to be relatively stable across dialects of Spanish in acoustic studies (Quilis & Esgueva 1983, Morrison & Escudero 2007). However, vowel variation has been described in areas influenced by language contact, such as the Andean region (Guion 2003, O'Rourke 2010) and the Southwestern U.S. (Willis 2005). There is also some internal variation within Spanish involving the mid vowels in unstressed contexts, and there are some dialects that have unstressed vowel reduction. This variation is relevant to the description of the Cavite Chabacano vowel system.

Unstressed mid and high vowels were commonly neutralized in 16th and 17th century Spanish, but as the language underwent standardization, this feature came to be seen as uneducated, and it is found mainly in rural or nonstandard varieties today (Penny

2000:133-134, 210-211). According to Penny (2000:134), the realization of the neutralized high and mid vowels does not generally result in a consistent preference for a higher or lower variant, but rather depends on the phonological environment; for example, there is dissimilation of the front vowels, as in *civil* ‘civil’ [θi’βil] ~ [θe’βil], or assimilation to a following high stressed vowel, as in *morir* ‘to die’ [mo’rir] ~ [mu’rir]. Unstressed mid vowel raising has been reported in some regional dialects. One example that is particularly relevant to Chabacano is the Michoacán region, which had mid vowel raising in the 18th century (Parodi & Santa Ana 1997). Michoacán is not one of the regions that Borromeo (1974) specifically mentions as one of the places where Mexicans in Cavite may have come from, but it is in the central part of Mexico near the other places she mentions (e.g. Guadalajara), and the time period coincides with the Philippine colonization.

As previously mentioned, Cavite Chabacano has lexical stress, a feature derived from both the superstrate and substrate. In Spanish, there is contrastive stress on the antepenultimate, penultimate, and ultimate syllables. For example, there are minimal triplets such as *ánimo* ‘courage’, *animo* ‘I encourage’, and *animó* ‘s/he encouraged’ (Hualde 2005:221). Spanish stress is realized through pitch prominence and duration (Hualde 2005:241-245). In general, vowel quality is not affected by stress in standard varieties of Spanish. For example, Ortega-Llebaria & Prieto’s (2011) acoustic study of Castilian Spanish speakers found no significant vowel reduction in unstressed compared to stressed positions.

However, there are some varieties of Mexican and Andean Spanish that have been described as reducing unstressed vowels. For example, Lipski (1990) describes unstressed vowel reduction in Ecuadorian Spanish, which occurs mainly before word-final /s/ and affects the front vowels most often. /o/ is also reduced in final position. The unstressed vowels are described as shortened and devoiced, although no acoustic evidence is provided. Delforge (2008), focusing on Peruvian Spanish and using acoustic methods, finds that the unstressed vowels are devoiced, especially in word-final position, but there is little centralization in terms of vowel quality. /e/ and /o/ were most frequently devoiced. Even more relevant to the Cavite contact situation is the unstressed vowel reduction that has been documented in some central Mexican Spanish varieties, for example, in Guanajuato and Mexico City (Boyd-Bowman 1952, Lope Blanch 1963). As in Andean Spanish, Boyd-Bowman and Lope Blanch both find that unstressed vowel reduction tends to occur before /s/ in word-final syllables.

Given that many Spanish speakers apparently came to Cavite from central Mexico before the 19th century (Borromeo-Buehler 1974:49), these patterns of mid vowel raising and unstressed vowel reduction or devoicing could have played some role in shaping the Cavite Chabacano vowel system. However, these features of Cavite Chabacano should only be attributed to superstrate influence if they follow the specific patterns previously described in Spanish. For example, Cavite Chabacano tends to raise mid vowels in unstressed contexts as in Spanish, but the fact that the creole also has raised mid vowels in the stressed syllables of verbs (e.g. the final vowel of *pudi* < Sp. *poder* ‘to be able’) requires further explanation, since Spanish mid vowels are not raised in stressed position.

Similarly, if Cavite Chabacano has unstressed vowel reduction, it can only reliably be attributed to superstrate influence if it tends to occur in the same environments as in Spanish (e.g. before /s/ and in word-final position) or perhaps if there are similarities in the phonetic patterning (e.g. devoicing rather than centralization).

2.6.4 *Tagalog phonology and phonetics*

2.6.4.1 Tagalog dialectal input into Cavite Chabacano

There has been very little research on Tagalog dialectology, but according to Schachter & Otones (1972:1), “Among the distinctive regional dialects may be noted at least the following six: Bataan, Batangas, Bulacan, Manila, Tanay-Paete, and Tayabas”. Bataan and Bulacan are north of Manila, and Batangas, Tanay-Paete, and Tayabas are to the south. Cavite province is just to the north of Batangas province but is still considered part of the Southern Tagalog region.¹⁶

Tagalog in modern Cavite City is grammatically and phonologically similar to Manila Tagalog, which is not surprising given the geographical proximity of these cities. However, there are some indications of dialectal differences between the Tagalog of Cavite province and standard Manila Tagalog. For example, Medina (2001) has a glossary of Cavite Tagalog vocabulary with translations to standard forms. Ternate and Cavite Chabacano also have some Tagalog-based forms that differ from their counterparts in standard Tagalog. For example, Sippola (2011:305) has an example of the

¹⁶ “Southern Tagalog” is used here in a political as well as a linguistic sense. This name was formerly used as the name of the region of the Philippines that included several provinces that are in the southern part of Tagalog-speaking territory.

question marker *baga* being used in Ternate Chabacano instead of the standard *ba*.¹⁷ *Baga* is also used in Marinduque Tagalog, another southern dialect (Soberano 1980). Cavite and Ternate Chabacano also both have the Tagalog variant *nangka* ‘jackfruit’ instead of standard *langka*. In addition, Cavite Chabacano has some Tagalog-based words that have the opposite stress of the same words in standard Tagalog, e.g. *guláy* ‘vegetable’ instead of Manila Tagalog *gúlay* (German 1932). However, since there is little documentation of Cavite Tagalog, it is unclear if the difference in stress is a regional dialectal feature or if it has some other origin. As the following review of the Tagalog vowel system shows, Southern Tagalog dialects seem to preserve some of the features of the Old Tagalog vowel system that Manila Tagalog does not, which may have some bearing on why Cavite Chabacano, as well as Ternate Chabacano, has mid vowel raising.

2.6.4.2 The Tagalog vowel system

While Old Tagalog had a 3-vowel system consisting of /i, a, u/, Modern Tagalog is considered to have a 5-vowel system consisting of /i, e, a, o, u/ (Schachter & Otones 1972, McFarland 2000). The expansion of the Old Tagalog system is often attributed to Spanish contact, as almost all minimal pairs between /i/ and /e/ and between /u/ and /o/ occur in Spanish loanwords (e.g. *misa* ‘Mass’ and *mesa* ‘table’). However, Reid (1973) argues that the language was possibly already on its way to developing a 5-vowel system even before the arrival of the Spanish, citing allophonic patterns of variation between the mid and high vowels. These patterns are the lowering of /i, u/ to [e, o] in phrase-final

¹⁷ *Ba*, however, is used far more often in Sippola’s (2011) examples.

position and the reduction of /aj, aw/ to [e, o] (Schachter & Otones 1972, Reid 1973, McFarland 2000). The lowering of the high vowels in phrase-final position is a type of strengthening at the edge of the phrase, and the reduction of /aj, aw/ is a type of weakening. There have been very few phonetic studies on Tagalog, and none that focus on the vowel system. However, in his study of the Tagalog acoustic correlates of stress, Gonzalez (1970) provided acoustic evidence for the phrase-final vowel lowering that is described in the phonological accounts.

Alternation between the high and mid vowels appears to be quite old in Tagalog; it was mentioned in the earliest descriptive grammar of the language (Francisco de San José 1610) and it can be found in other early documents made by Spanish priests. The phrase-final high vowel lowering seems to have particularly affected /u/. Today, /u/ is extremely rare in phrase-final position, and there are almost no words in Tagalog that are spelled with <u> in the final syllable.¹⁸ Gonzalez (1970:20) notes that while phrase-final /i/ can still be pronounced as either [i] or [e] (e.g. in *lalaki* ‘man’), using [u] in a final syllable (e.g. [susu] instead of [suso] for *suso* ‘breast’) sounds non-native. This asymmetry between the front and back mid vowels seems to indicate that the sound change with /u/ took place first, or that the sound change was more complete.

However, it seems that phrase-final high vowel lowering was not common across all of the Tagalog-speaking regions. Blancas de San José learned Tagalog in Bataan, which is northwest of Manila, and wrote his (1610) grammar there. It seems that the southern dialects may not have undergone the same kinds of sound changes as Manila

¹⁸ *Sampu* ‘ten’ and *datu* ‘chief’, which is an old-fashioned word related to the pre-Spanish class hierarchy, are two exceptions.

Tagalog or other northern varieties, or that they may not have undergone these changes until after the Spanish arrived. For example, Manuel (1971:12) mentions that Tayabas Tagalog (spoken in Quezon province) has [u] where Central (Manila-Bulacan) Tagalog has [o] (e.g. Tayabas *nuu* ‘forehead’, Central Manila *noo*). In another part of the Southern Tagalog region, the island of Marinduque, Soberano (1980) observed that the Tagalog dialects there often preserve final /u/ as [u] in words in which Manila Tagalog has [o] (e.g. Marinduque [mirʔun], Manila [meron] for the existential particle *mayroon*), in addition to retaining other archaic Tagalog phonological features such as the onset glottal stop in [mirʔun].

Since Cavite province is also part of the Southern Tagalog dialect region, it is possible that at the time of Spanish arrival the Tagalog speakers there may still have retained the high vowels in final position. This dialectal variation in Tagalog would explain why German (1932) found so many examples of Cavite Chabacano words with /u/ and /i/ where standard Tagalog, including the Tagalog spoken in Cavite City today, had lowered them to /o/ and /e/ (e.g. *ubi* ‘purple yam’ instead of standard Modern Tagalog *ube*). Raising of /o/ and /e/ from Spanish words would have also occurred as Cavite Chabacano speakers adapted the Spanish vowels to their Old Tagalog 3-vowel system. Initially, before /e/ and /o/ were eventually acquired, mid vowel raising affected stressed as well as unstressed vowels, as in *pudi* < Sp. *poder* ‘to be able’.

Since Modern Tagalog high vowel lowering occurs in phrase-final position, a brief review of Tagalog prosody is in order, focusing particularly on its effects on the vowel system. At the word level, Tagalog has contrastive stress. Some examples of

minimal pairs showing contrastive stress are *áso* ‘dog’ and *asó* ‘smoke’, and *búkas* ‘tomorrow’ and *bukás* ‘open’. Schachter & Otones (1972:15) claim that these pairs differ by “vowel length, or duration”. It seems that they refer to a phonological distinction and not simply the physical duration of the vowel. However, it does not seem that the duration of Tagalog vowels are independent of stress the way it is, for example, in Finnish (e.g. there is no contrast involving forms like [a:'so] or ['aso:] in addition to [a:so] ‘dog’ and [a'so:] ‘smoke’). Schachter & Otones also describe stress as sometimes marked by higher pitch as well as longer vowels.

Schachter & Otones’ observations are supported by Gonzalez (1970), who used phonetic methods to investigate the role of fundamental frequency, amplitude, duration, and vowel quality as correlates of lexical stress and phrasal accent in the speech of two Tagalog speakers (including himself). Gonzalez found higher fundamental frequency, greater amplitude, and longer duration in stressed vowels than in unstressed vowels. As for vowel quality, he claimed that there is a lack of vowel reduction in unaccented syllables (1970:24), although from the data provided, and the lack of statistical analysis, it is not clear how he came to this conclusion. His claim is counter to Yap’s (1970:63-64) description of Tagalog vowels as reduced when unstressed; for example, she describes [ə] as the unstressed allophone of /a/. Llamzon’s (1966) and Soberano’s (1980) descriptions of Tagalog phonology contain similar transcriptions. Yap, Llamzon, and Soberano do not provide phonetic analysis to support their descriptions, but in the measurements provided in Gonzalez’s (1970) appendix, it appears that many of the unstressed vowel tokens in his study were in fact more centralized than their stressed counterparts. Gonzalez also

observed that “although F-structure [formant structure] changes occur with certain accented syllables, the causative factor does not seem to be accent but the position of the vowel in the formative ... although in perception, a change in F-structure may be used in conjunction with other cues for perceiving accent in some syllables” (1970:29). He found that /i/, /u/, and /a/ all tend to lower in phrase-final position.¹⁹

There has been very little research on Tagalog at the post-lexical level, but Anderson (2006) presents preliminary results suggesting that the language may have a prosodic system that is not yet included in Jun’s (2005) prosodic typology. While all of the lexical stress languages included in Jun (2005) are head-prominent at the post-lexical level, Anderson’s analysis suggests that Tagalog may mark prominence only at the right edge of the phrase. For one speaker, Anderson measured duration, amplitude, and pitch range for each syllable. She then compared the measurements for each syllable position (ultimate, penultimate, antepenultimate, preantepenultimate, etc.). The findings suggest that Tagalog does not seem to mark prominence at the head of the phrase. The phrase-final syllable is prosodically prominent in terms of duration and a wider pitch range, suggesting a phrasal boundary tone associated with that position. These findings should be taken with caution because they are based on only one speaker, but they corroborate the earlier research by Gonzalez (1970), who showed that the phrase final position in Tagalog is particularly prominent in terms of duration, fundamental frequency, amplitude, and vowel quality, regardless of lexical stress.

¹⁹ Gonzalez seems not to have investigated /e/ and /o/ because none of his target words were Spanish or English borrowings.

2.6.5 Hokkien in Cavite

Although I am not focusing on the possible Chinese linguistic input into Cavite Chabacano in this dissertation, the review of the sociohistorical situation (sections 2.2 and 2.5) mentions the importance of the Hokkien traders and shipbuilders in the early Spanish period and the Chinese-Filipino mestizos in the late Spanish period, so a brief description of how they fit into the linguistic picture is warranted. According to Chan-Yap (1980:22), Hokkien has a 5-vowel system of /i, e, a, o, u/, with vowel nasalization occurring before nasal consonants. Some varieties of Hokkien have a sixth vowel, /ɔ/ (Ramsey 1989:109). There is even a record of what kind of Hokkien was spoken in the early Spanish Philippines. Around 1620, an unknown Spanish priest wrote a grammar called the *Arte de la lengua chio chiu*. *Chio chiu* likely refers to the language of the Zhāngzhōu district of Fújiàn province (Klötter 2011:3). Klötter refers to the variety described in this grammar as “Early Manila Hokkien”. He interprets the priest’s description as containing nine Hokkien vowels: /i, ĩ, e, ě, a, ã, o, ɔ, u/. Unlike Chan-Yap (1980), he seems to interpret the nasalized vowels as separate phonemes.

Based on this description of Early Manila Hokkien, it seems that Tagalog speakers in Cavite were in contact not only with the 5-vowel system of Spanish, but also the 6-vowel system (or 9-vowel, depending on the analysis) of Hokkien. It seems unlikely that Hokkien speakers would have had much difficulty acquiring the Spanish vowels since the number and type of categories in the two languages are similar, but with the nasalization and tone in their L1, they still could have transferred some of their

features to Spanish. However, after the earliest period of the colonial era, there were many Chinese-Filipino mestizos who likely would have had Tagalog as an L1.

The role of Hokkien or other Chinese linguistic input into any of the Chabacano varieties has been almost completely unexplored, other than some examples of words of Hokkien origin in Zamboanga Chabacano in Ing's (1968) dissertation. Investigation of Chinese influence in Chabacano, either phonologically or grammatically, would make for interesting future studies.

2.7 Summary

This overview of the sociohistorical and linguistic background of Cavite Chabacano highlights a number of areas to focus on in this dissertation. First, most research on Chabacano has focused on morphology or syntax, and there have been relatively few phonological studies in comparison. There have also been very few sociolinguistically oriented studies on Chabacano, and none that use phonetic methods. This dissertation contributes to all of these understudied aspects of Chabacano.

Second, the primary inputs into the Cavite Chabacano phonological system over the course of the colonial period were Mexican Spanish, Peninsular Spanish, and Cavite Tagalog. These different types of input account for the kind of linguistic variation described by German (1932), Ramos (1963), Lipski (1986), and others. Some of the phonological descriptions disagree about, or do not specify, whether certain Spanish sounds (e.g. /k/, /ɲ/, or /r/ as distinct from /r/) are phonemes in Cavite Chabacano. The

phonological description presented in Chapter 5 will include analysis of these issues and further discuss the levels of superstrate and substrate input.

Third, focusing on the vowel system specifically, previous descriptions of Cavite Chabacano all mention that mid vowels tend to be raised, especially in the San Roque district. Prosody seems to play an important role in how mid vowel raising is conditioned, given that it is described as occurring in unstressed syllables, especially in final position. Other aspects of the vowel system are not as well described, such as how vowel quality is conditioned by lexical stress or phrasal position. It is also unclear what other acoustic correlates of stress are. Building upon these previous descriptions, this dissertation offers a more fine-grained description of the Cavite Chabacano vowel system by using phonetic methods. The phonetic analysis in Chapter 6 is also used to evaluate levels of superstrate and substrate influence in shaping Cavite Chabacano phonology.

Finally, it is clear from the previous descriptions of Cavite Chabacano phonology, as well as from the comments of local residents (Cordero-Fernando 1992 and my own fieldwork), that there are sociolinguistic aspects of phonological variation in Cavite Chabacano that have not yet been explored. Therefore, this dissertation not only documents variation in the vowel system of Cavite Chabacano, but also describes the speakers' awareness of the variation and evaluates their attitudes toward it. I argue that the variation in the vowel system carries social meaning that is related to historical settlement patterns and subsequent developments that changed the sociolinguistic landscape of Cavite City over the centuries, as described earlier in this chapter.

Chapter 3: Phonology, Phonetics, and Social Factors in the Development of Creoles

3.1 Introduction

In this chapter, I situate this study within the context of previous research on phonology, phonetics, and social identity in creole languages and describe the theoretical and methodological approaches that I take in the analysis of the Cavite Chabacano vowel system. Studies on creoles have usually taken a broad approach to describing their phonological systems, for example, by comparing the number of phonemes in the creole to that of the superstrate or substrate, or focused on formal analysis within the framework of Optimality Theory. However, taking cues from the literature on the phonetics of second language phonological acquisition, I argue that substrate/adstrate influence can be evident not only at the broad phonological level, but also at the phonetic level. For example, a creole may have the same number of vowel categories as its superstrate, but the vowels may pattern phonetically in ways similar to the substrate/adstrate system or be reorganized within the vowel space in comparison to both the superstrate and substrate systems. The incorporation of sociophonetic methods into descriptions of creole phonology is useful to show when such substrate influence may be present. I also argue, based on evidence from sociolinguistic studies and second language acquisition, that

social factors such as identity, prestige, and language attitudes should be taken further into account in describing how creole phonological systems form and develop over time.

The different bodies of literature on which I base these arguments are presented in this chapter. In section 3.2, I discuss the types of approaches that previous studies on creole phonology and phonetics have taken. Sections 3.3-3.5 discuss research on second language phonology, sociophonetic methods for the analysis of vowel systems, and folk perception and language ideology that inform my approach to the analysis of Cavite Chabacano phonology. 3.6 summarizes how I combine these different strands of research in this dissertation.

3.2 Approaches to creole phonology

Debates over the related issues of how creole genesis occurs, whether or not creoles constitute a typologically distinct class from non-creoles, and how simple or complex they are continue to dominate creole studies. For example, Bickerton's (1984) Language Bioprogram Hypothesis clearly stresses the importance of universal processes in creole genesis, but other frameworks, such as Lefebvre's (1998) relexification theory, emphasize the role of substrate influence. Over the past two decades, several creolists have noted that the debate over these issues has focused almost exclusively on syntax and morphology, while phonology has been mostly neglected in comparison (Rickford 1993, Singh & Muysken 1995, Smith 2008:98, Lipski 2000, Klein 2006a, Russell Webb 2008, Plag 2009:120). By way of illustrating this point, Rickford (1993) notes that articles

focusing on phonology have been remarkably scarce in the *Journal of Pidgin and Creole Languages*, and this situation continues today. Muysken (1994) counted just three phonology articles in JPCL volumes 1-7 and Thomason (2003) counted four in volumes 8-17. I counted nine phonology articles in volumes 18-28 (including one guest column), so while the number is still very small compared to articles on other topics, studies on creole phonology appear to be increasing.²⁰

The growing body of research shows that phonological studies can and should contribute to the debate on these central issues in creole theory (e.g. Alber & Plag 2001; Uffmann 2003; Plag 2009; Russell Webb 2008, 2010; Brousseau 2011; Klein 2006a, 2006b, 2011). There is also some work that focuses on the historical origins of particular creole phonological features, synchronic phonological variation, and phonetics, but the literature on these topics is more limited compared to that on issues related directly to creole genesis and phonological restructuring. Work in all these different areas, and the different approaches taken to analyzing creole phonology, is discussed in the following subsections.

3.2.1 Phonological restructuring in creole genesis

Following work in the broader field of creole studies (e.g. Siegel 2003, 2006), recent work on creole phonology has focused on the role of adult second language acquisition (SLA) processes of simplification and transfer during creole genesis. For

²⁰ These counts do not take into account the number of creole phonology studies that have appeared in books or other journals, but as JPCL is the flagship journal of the field, I think these numbers are representative of creolists' interest in this topic.

example, Plag (2009) and Brousseau (2011) both compare creole phonology to interlanguage phonology. Much of the work on the emergence of creole phonological systems has been framed in terms of Optimality Theory (e.g. Lipski 2000; Alber & Plag 2000; Uffmann 2003; Plag 2009; Russell Webb 2008, 2010). Within this framework, phonological restructuring in creole genesis is seen as the reranking of constraints based on input from the superstrate and the substrate, as well as the emergence of universally unmarked features.

Uffmann (2003:3) argues that OT is “uniquely suited to understand issues of creole formation ... substratist and universalist theories can be unified in a novel fashion”. Uffmann links the faithfulness constraints of OT with the tendency of creoles to retain or transfer substrate features, and the markedness constraints with the emergence of the unmarked in creole formation. The phonological system that a particular creole ends up with is the result of the reranking of faithfulness and markedness constraints as the different substrate and superstrate systems come into contact. Uffmann (2003:9) claims that in general, “the unmarked substrate structure is systematically retained in creolization”. He predicts that when there are multiple substrates, if one substrate ranks faithfulness over markedness and another ranks markedness over faithfulness, the resulting combined grammar will retain the markedness over faithfulness ranking.

Uffman (2003:13-14) cites the Ndyuka vowel system as evidence for this claim. Ndyuka has a 5-vowel system, whereas the Gbe and Kikongo substrates have 8- and 5-vowel systems, respectively. Uffmann identifies two competing constraints in these substrates: *[-ATR] (no lax vowels), a markedness constraint, and IDENT(ATR) (no change

in [-ATR] specification), a faithfulness constraint. Gbe ranks IDENT(ATR) >> *[-ATR] (faithfulness over markedness), Kikongo ranks *[-ATR] >> IDENT(ATR) (markedness over faithfulness), and Ndyuka also ranks *[-ATR] >> IDENT(ATR) (markedness over faithfulness). Uffmann interprets the Ndyuka outcome as a combination of substrate influence from the 5-vowel Kikongo system and the emergence of the least marked vowel system.

There are a couple of serious problems to consider with using OT to model the emergence of creole phonology in this way. One is the assumption that the 5-vowel systems of the substrate Kikongo and the creole Ndyuka are necessarily the same. It is possible that there could be different allophonic patterns in the creole and its input languages, or differences in how the vowel categories are situated in relation to each other within the vowel space, which could influence how the categories are perceived by speakers with different L1s. With the case of Ndyuka, Uffmann (2003:14) cites Bettina Migge (p.c.) as saying that the Ndyuka mid vowels are in fact sometimes realized as [ɛ, ɔ], two of the “missing” marked vowels of the 8-vowel Gbe system; however, he dismisses these phonetic differences as “of minor phonological concern”. Without knowing more about the phonetic detail of how the mid vowels are realized and what phonological contexts the lax variants tend to occur in, it is difficult to know just how similar the 5-vowel systems of Ndyuka and Kikongo really are, or if there are any traces of the Gbe system in the phonology of the creole, as might be expected given that Gbe languages are generally considered to be the main substrates of the Surinamese creoles (see, for example, Winford & Migge 2007).

The second problem is that the explanation of creole phonological restructuring as the reranking of linguistic constraints does not take into account the extralinguistic factors that can influence the outcome of a contact situation. Uffmann (2003:17) acknowledges that his analysis of the phonological development of Ndyuka does not account for sociolinguistic factors such as the ratio of substrate to superstrate speakers, the relative prestige of the languages in contact, or the level of access that substrate speakers had to the superstrate. There is also no mention of the time of arrival of the different substrate groups, or whether Gbe or Kikongo had greater influence in the formation of the creole. Not addressing sociohistorical factors in an explanation of creole formation is a serious drawback. The application of OT to creole phonology, at least in this form, lacks explanatory power; how or why is it, exactly, that the constraints get reranked? Appealing to universal factors like markedness alone does not seem sufficient, because social factors could easily override these considerations. For example, in a scenario where 75% of the speakers in contact had an L1 8-vowel system and 25% of speakers had an L1 5-vowel system, or if the L1 8-vowel speakers were considered prestigious, it seems possible or even likely that leveling would not take place in favor of the least marked system.

Russell Webb (2008, 2010) also acknowledges that these two points about social and phonetic factors present challenges to the use of Optimality Theory in analyzing creole phonological restructuring or sound change, and seeks to address them by incorporating phonetic and sociolinguistic constraints into OT. He proposes that a phonetically-based version of OT (e.g. Boersma 1998; Hayes, Kirchner, & Steriade 2004)

that takes into account the role of phonetic perception by the listener (as in Flege 1995, Best 1995) can be used to formalize creole phonological restructuring. Phonetically-based perception constraints such as PARSE, a type of faithfulness constraint, and *CATEG(ORIZE), a type of markedness constraint, are included in the formalization of creole phonology.

Russell Webb (2008:242-243) illustrates the use of these perceptual constraints to account for the lack of the French front rounded vowels /y/, /ø/, and /œ/ in Haitian and other French-lexified creoles. Superstrate French speakers are attuned to the contrast of [round], but substrate Fongbe speakers are not. Russell Webb captures these differences using the following constraints: PARSE(F2) ('output should be faithful to input [±front]'), PARSE(lowFF) ('output should be faithful to input [±round]'), *CATEG(lowFF, round) ('do not categorize [±round]'), and *CATEG(highF2, front) ('do not categorize [±front]'). French speakers have the ranking PARSE(F2), PARSE(lowFF, round) >> *CATEG(lowFF, round), *CATEG(highF2, front), but Fongbe speakers have the ranking PARSE(F2), *CATEG(lowFF, round) >> PARSE(low, round), *CATEG(highF2, front). Therefore, in the emergence of Haitian, Fongbe speakers heard French /y/ in the input, did not perceive and categorize the [±round] feature of the vowel, and later produced it as /i/.

Using a similar approach, Russell Webb (2011) uses OT to formalize historical changes in the articulation of French rhotics from coronal to dorsal. Over the course of French history, the dorsal pronunciation gained prestige and became more common. To account for this sound change, Russell Webb proposes a sociolinguistic markedness constraint called PREF(ERENCE) to incorporate into OT analyses. PREF is defined as 'input

that receives more weight should be higher in the ranked order of output evaluation' (Russell Webb 2011:102). The change from coronal rhotics to dorsal rhotics is formalized as the reranking of PEF over IDENT manner and place constraints, and the "weight" is the prestige that dorsal rhotics gained through their association with the upper class. This paper is not about creole phonological restructuring, but in a recent presentation, Russell Webb (2013) proposed that sociolinguistic markedness and faithfulness constraints also play a role in creole formation.

The introduction of sociolinguistic constraints into OT is unorthodox because they are learned, not innate universals (Russell Webb 2011:102), but the notion of sociolinguistic markedness and faithfulness in creole (and non-creole) phonology is an interesting proposal to address some of the gaps in traditional OT analyses. However, as with the more typical types of constraints, formal accounts of constraint reranking are still unsatisfying if there is not also some explanation of how or why the relative importance of the constraints changed. Adding PEF to a model may be useful for descriptive purposes (if one accepts the controversial use of non-universal constraints), but it seems that explaining how preference or prestige comes to be assigned to a particular feature is something that has to be investigated outside of the scope of OT or other formal models, especially since the sociolinguistic history of creoles and their specific phonological features may not be as well investigated as that of the French example from Russell Webb (2011).

3.2.2 *Phonological simplicity, complexity, and typology*

Another strand of creole phonological research, which is related to the issues of phonological restructuring described above, has focused on the typology of phoneme inventories and syllable structure types across creoles and pidgins, and whether these languages are simplified or have unmarked features compared to non-creoles. Much of this work has been done by Klein (2006a, 2006b, 2011), Bakker (2009), and Uffmann (2009). The common finding in these studies is that creoles tend to fall around the typological middle ground. For example, Klein (2011) finds that a sample of 32 mesolectal and basilectal creoles fall into “average” categories, as defined by Maddieson’s (1984) typological classifications of non-creoles: 20-37 phonemes, including 5-7 vowels and 2-3 stop series. Klein finds no creoles that have only simple CV syllables, counter to previous claims about creole structure (e.g. Romaine 1988). Complex CCVC syllables are a common type in creoles. He argues that this phonological evidence goes against claims that creoles are simpler in structure compared to older languages (McWhorter 2005).

These typological studies are important contributions to the debates on how simple or complex creoles are, and how they compare to each other, their superstrates, their substrates, and other languages in general. However, one important thing to keep in mind is that these typological categories based on the number of phonemes are very broad. Creole vowel systems may be grouped together if they have the same number of phonemes at the broad level, but there may actually be some more fine-grained differences between them phonetically. For example, Klein (2011:167) follows

Maddieson (1984) in using /e/ and /o/ to represent the mid vowels in languages that do not have a tense/lax distinction, “even though the actual vowels may be tense or lax”. These categorizations are not a problem for phonological studies seeking to make broad crosslinguistic comparisons. However, for more detailed studies examining the role of substrate or superstrate influence in a particular creole, it is useful to include phonetic detail. If SLA processes are involved in creole formation, then substrate influence should be evident not only at the phonological level, but also at the phonetic level.

3.2.3 Creole phonology from a historical perspective

Many studies on creole phonology, and studies on creoles more generally, focus on issues related to genesis, but are based on data gathered from creoles in their modern state. As Smith (2008:100) notes in his overview of creole phonology, creoles continue to develop after the initial period of creolization through later language contact, but “the whole question of adstratal influence has pretty much been ignored in creole studies”. One example he gives is that Gullah has been assumed to have certain African substrate features from its inception, but comparative evidence suggests that a related creole, Afro-Seminole, lacks these features, meaning that Gullah could have developed them later through adstratal influence. Plag & Schramm (2006) also point out that in investigating issues related to creole genesis, such as whether or not creolization leads to the simplification of syllable structure, it is best to use the earliest attested data possible because later forms of creoles may be different from their earlier forms.

Smith (2008) describes some case studies of how historical phonology techniques can be used to investigate the development and history of creoles. In general, he argues for a historically and demographically informed approach that takes into account exactly what speakers were in the right place at the right time for creole development to take place. He cautions against making vague generalizations, for example, about “African” or “Kwa” substrate influence instead of precisely identifying specific languages that had the relevant phonological features or patterns found in the creole.

One study demonstrating this approach to creole phonology is Smith & van de Vate’s (2006) analysis of the historical and demographic factors that influenced the development of the English-lexified Caribbean creole vowel systems. They recognize two types of vowel systems among these creoles, the “Jamaican-type”, which preserve the short/long (or tense/lax) distinction of English, and the “Surinam-type”, which do not preserve the distinction (2006:62). Within the Jamaican-type, there is a further subdivision into Jamaican-type (i.e. Jamaican, Kittitian, Antiguan) and Bajan-type (i.e. Bajan, Gullah, Guyanese), depending on how the mid vowels developed. The Bajan-type mid vowels are [e:] ~ [ei] and [o:] ~ [ou], but the Jamaican-type are [ie] ~ [ia] ~ [ea] and [uo] ~ [ua] ~ [oa]. Smith & van de Vate observe that there were similar patterns of diphthongization in some regional English dialects. However, they wish to avoid “cafeteria methodology” (2006:68) in attributing creole features to superstrate or substrate influence, so they look to historical and demographic evidence to confirm that there were in fact settlers from parts of Southwestern England, where mid vowel

diphthongization was common, who were present in areas with Jamaican-type mid vowels.

This work shows the importance of considering demographic factors and the historical sources of variation in creole phonology. Although this dissertation includes phonetic and phonological analysis of modern data, I also take this approach by rooting my findings in what is known about the historical social and linguistic situation of Cavite City. Early Chabacano is not attested, but the historical phonology of Spanish and Tagalog is well described, and there is historical documentation of the demographics and settlement patterns, as described in Chapter 2.

3.2.4 *Creole phonetics*

Studies on creole phonology have rarely used phonetic methods. Of the studies that do use phonetic methods, some are very descriptive, relying on small datasets with little or no statistical analysis of the results. For example, Rivera-Castillo & Pickering (2004), Good (2006), and Sabino (1990) each rely on data from only one speaker (although in Sabino's study on Negerhollands, that could not be avoided because there was only one remaining fluent speaker of the language). Most studies on creole phonetics have focused on different aspects of prosody (e.g. Rivera-Castillo & Pickering 2004; Remijsen & van Heuven 2005; Good 2006; Gooden 2003, 2007; Iskrova 2007), but part of Sabino's (1990) dissertation included acoustic analysis of the Negerhollands vowel system, and Wassink (1999a, 2001, 2006) focused on Jamaican Creole and Jamaican English vowel systems. The phonetically best described creole languages seem to be

Papiamentu (Rivera-Castillo & Pickering 2004, Remijsen & van Heuven 2005) and Jamaican Creole (Wassink 1999a, 2001, 2006; Gooden 2003, 2007).

With respect to prosody, Caribbean creole phonological systems have been described as typologically unique in how they combine the lexifier European stress systems and the substrate West African tone systems. For example, Rivera-Castillo & Pickering (2004:262) claim that “the study of the phonetic correlates of tone and stress in Creoles contributes to the study of all languages because Creoles incorporate features from different systems in a creative way”, and they describe Papiamentu as having a “mixed” prosodic system. However, the assumption that creoles are prosodically unique is not sound. Rivera-Castillo & Pickering do not use standard typological or theoretical frameworks for their phonological analysis, and their phonetic methods are not experimentally or statistically rigorous. Using more standard frameworks and methods, Remijsen & van Heuven (2005) find that Papiamentu has a prosodic system similar to that of Swedish and Dutch “word-accent”, meaning that its structure is not unique to creoles. They find that not every syllable is lexically specified for tone, as most previous analyses assume (including Rivera-Castillo & Pickering 2004). Rather, Papiamentu has minimal pairs contrasting words with lexical high tone in one syllable and words lacking that tone, as in Swedish. Apart from this lexical tone, there is also a separate “prominence tone” or post-lexical pitch accent that only appears when the word is in narrow focus or in citation form.

Gooden et al. (2009) take a closer look at “hybrid” creole prosodic systems within the Autosegmental Metrical framework, comparing creoles like Jamaican Creole and

Trinidad English Creole to better described non-creoles such as Japanese and English. They observe that because creoles arise from interaction between various languages, it is easy to attribute the presence of “mixed” features in a creole to language contact. However, Gooden et al. argue that there are strong reasons that claims of contact-induced change should not be automatically assumed. One reason is that creolization also involves universal principles and internal change, which affect all languages. For example, any language can develop stress based on reanalysis of word-level tonal melodies (Gooden et al. 2009:431). Another reason is that many phonological analyses of creole languages are not based on phonetic evidence. This is a problem because given that most fieldworkers do not speak the field language as an L1, they are also susceptible to the perceptual reanalysis of prosodic patterns, for example, by hearing stress or post-lexical pitch accents when they are not there. Another reason is that all languages are to some extent “hybrid” because of the multiple functions that prosodic features have at the lexical and post-lexical levels. For example, Japanese is just as “hybrid” as Papiamentu is in the sense that tone interacts at the lexical and post-lexical levels in complex ways.

For the reasons discussed above, Gooden et al. (2009:431) advise that in the study of creole prosody, “the analyst must shift from the purely diachronic- and corpora-based approaches to theoretically grounded methods that incorporate experimental techniques tested on synchronic data. At the same time using synchronic data to argue for contact-induced/diachronic change from creole formation should be done very cautiously”. This approach can also be taken to studies on creole phonology at the segmental level, and is the viewpoint I take in this dissertation in the description of how the Cavite Chabacano

vowel system is conditioned by prosodic factors. The phonological claims I make about the vowel system in Chapter 5 are supported by experimental phonetic evidence in Chapter 6, and both types of analyses are informed by knowledge of the sociohistorical background of Cavite Chabacano and diachronic evidence. Analyses of creole structure should follow standard methods, theories, and typological frameworks from outside the field of creole studies so as not to introduce bias by assuming that creole languages are linguistically unique from the outset.²¹

In the study of creole vowel systems, Wassink (1999a, 2001, 2006) uses sociophonetic methodology to describe basilectal Jamaican Creole and acrolectal Jamaican English. Measurements of the F1, F2, and duration of the vowels were taken to compare how each variety realizes short/long vowel distinctions. In Wassink (2006), she describes a method for calculating degrees of vowel category overlap based on these measurements, which I also incorporate into this dissertation. The specifics of this methodology are described below in 3.2, as well as in Chapter 6.2.5. In general, Wassink's work combines phonetic and sociolinguistic analysis. Wassink (1999a, 1999b) discuss the metalinguistic awareness and attitudes about what constitutes Jamaican Creole versus Jamaican English speech, and Wassink (2001) describes stylistic variation in the vowel systems of both varieties. Similarly, this dissertation includes both phonetic analysis and a description of the participants' attitudes toward variation in Cavite Chabacano, especially about the vowels, and what counts as sounding more like the superstrate Spanish or the substrate Tagalog.

²¹ See Winford (2000) and Velupillai (2003) for similar methodological points regarding the study of creole TMA systems.

3.3 SLA phonology

Much of the research on creole phonology has taken a coarse-grained approach, e.g. by comparing the numbers of phonemes or syllable structure types in creoles and their input languages, without taking into account phonetic surface detail. Like Russell Webb (2008, 2010), I take the view that phonetic perception and sociolinguistic factors should be incorporated into models of how creole phonological restructuring occurs, but with a more experimental approach rather than the formal approach of OT. In this section, I first summarize some of the models of SLA phonology that focus on phonetic perception and production and describe how they are relevant to creole studies, and then I discuss findings on the importance of social factors in L2 acquisition and creole phonological restructuring.

3.3.1 Phonetic approaches to SLA phonology

The importance of phonetic detail in L2 phonological acquisition is captured in Flege's (1995) Speech Learning Model (SLM), which involves using experimental methods to investigate learners' perception and production of L2 sounds. The SLM assumes that "L2 phonetic segments can be produced only as accurately as they are perceived" (Flege 2003:25). Flege (1991:264) acknowledges that the notion that "perception leads production" is somewhat simplistic. For example, Sheldon & Strange (1982) found that some Japanese learners of English can produce the distinction between

/r/ and /l/ better than they can perceive them. However, such cases seem to be the exception rather than the rule (Flege 1991, Major 2008).²²

The SLM makes a set of assumptions about how learners perceive and produce sounds in the L2 (Flege 1995:239). One assumption is that learners can adapt their phonemic categories throughout the lifespan. With time, experienced L2 learners are able to perceive and acquire L2 contrasts. How quickly a learner acquires a new phonological contrast and how native-like their phonetic production becomes depends on the degree of perceptual similarity to the L1 system. When a learner first encounters an L2 sound, it gets classified as “identical”, “similar”, or “new”, based on its acoustic characteristics and perceived similarity to categories in the L1. The SLM predicts that if two contrasting sounds in the L2 are perceived as similar to one L1 category, then the contrast will be difficult to acquire and the learner will produce them the same way. The SLM also predicts that new sounds are easier to acquire because they are perceptually salient, and therefore do not undergo equivalence classification into a pre-existing L1 category. For example, experienced German learners of English are able to perceive and produce /æ/, a new sound which does not have its own category in their L1 system, as distinct from /ɛ/ (Bohn & Flege 1997).

Another crucial aspect of the SLM is that transfer is not unidirectional from L1 to L2. It is assumed that the L1 and L2 systems inhabit the same phonological space. Once a speaker acquires a new L2 contrast, their L1 categories may shift in order maintain

²² The Japanese participants in that study may have been able to produce the English distinction better than they perceived it because they had had formal classroom instruction in how to make the two different sounds (Flege 1991:264, Major 2008:75).

distinction from the new L2 categories. For example, phonetic studies on bilingual Quichua and Spanish speakers in Peru have shown that the vowel spaces of both of their languages have undergone restructuring, even though superficially the number of categories in each language has remained the same (Guion 2003, O'Rourke 2010).

The Peruvian contact situation is an interesting parallel to the Philippine contact situation because both Tagalog and Quichua had 3-vowel systems before contact with the 5-vowel Spanish system. Guion (2003) found that early bilinguals had reorganized their Quichua vowel spaces to be more dispersed than those of later bilinguals or monolingual Quichua speakers, arguing that the system was restructured to maximize the distinction between the high and mid vowel categories of Spanish, contrasts which are lacking in monolingual Quichua. Guion (2003:124) observed that a study which had merely classified the vowels at a broader level simply as high, mid, and low would have missed these important differences between the vowel systems. Similarly, O'Rourke's (2010) study on Peruvian Spanish finds that speakers from Cuzco have larger, more fronted vowel spaces compared to those of speakers from Lima, likely as a result of language contact with bilingual Quichua speakers in Cuzco. The vowel spaces of bilingual speakers have been reorganized to accommodate new phonetic contrasts, and the transmission of these new systems to monolingual speakers is creating regional differences in Peruvian Spanish, even though Cuzco and Lima Spanish speakers still both have 5 vowel categories.

Another model of L2 phonology is the Perceptual Assimilation Model (PAM) (Best 1995, Best & Tyler 2007). There are similarities between SLM and PAM, but

unlike SLM, which focuses on experienced L2 learners, PAM in its original form focuses primarily on naive listeners. Best's model predicts three patterns in how listeners classify contrasting L2 sounds. In the Single Category pattern, the contrasting sounds are perceived as the same and they are assimilated into one L1 category. In this case, listeners will have a difficult time discriminating between sounds. In the Category Goodness pattern, the sounds may still be assimilated into one L1 category, but one of them will be perceived as a better representation of that category than the other. Discrimination is somewhat better in this case. Discrimination is easiest in the Two Category pattern, when the contrasting sounds are perceived as similar to two different L1 categories.

One difference between SLM and PAM is that the equivalence classification of SLM deals primarily with similarity at the phonetic level, whereas in PAM, assimilation can also occur at the phonological level. For example, English speakers perceive French [ʁ] as belonging to a rhotic category similar to /r/, even though those two sounds do not have many phonetic properties in common (Best & Tyler 2007:28). They do, however, share similarities in phonotactic distribution.²³

SLM and PAM can both be used to predict how L2 learners will perceive and produce a given contrast, and to make fine-grained cross-linguistic comparisons. These models offer appealing approaches to the description of creole as well as L2 or bilingual phonology. These frameworks can also be used to predict how certain sounds in the

²³ They are also both represented orthographically as <r>. In untutored learning situations, or situations involving languages that are not written, it seems possible that these two rhotics could be perceived as different kinds of sounds.

superstrate may be classified or produced in creoles depending on the perception of substrate speakers. However, these models of perception and production, and phonetic methodology in general, should be applied to the study of creoles very carefully. It is one thing to provide a synchronic description of a modern language contact situation, as in Guion (2003) and O'Rourke (2010), but using phonetic evidence to make claims about how a four hundred year old creole may have restructured its phonological system should be done with caution, supported by diachronic evidence, as Gooden et al. (2009) recommended for the study of creole prosody.

There are two main benefits to using phonetically-based approaches to L2 phonology like SLM and PAM for the study of creoles. One is that it accounts for the fact that when speakers begin learning another language, they do not have access to the underlying phonological categories of the L2 and have no knowledge of what sounds or structures linguists consider universally marked or unmarked. Speakers in a contact situation rely on the surface level phonetic details of what they hear in order to figure out how to classify and produce new sounds, and they do so in relation to the categories of their L1 (Flege 1995:239).

The other main benefit is that it is easy to incorporate social and linguistic variation into studies using experimental methodology. With large enough data sets, which is often lacking in impressionistic phonological descriptions that can be biased toward the fieldworker's L1 (Gooden et al. 2009), one can examine the effects that region, gender, level of L2 exposure, ethnicity, phonetic environment, or any number of other social, historical, and linguistic factors may have in influencing the development of

a new language variety. Incorporating social as well as phonetic details into phonological analysis provides a more nuanced view of how sound systems become restructured in SLA or creolization, as discussed in the following subsection.

3.3.2 Social factors in L2 phonological acquisition

The outcomes of SLA and creolization are strongly dependent on social factors. Schumann (1976) identified several social factors that influence the degree of assimilation to a target language group by a second language learning group, including the attitudes held toward both groups, whether one group is more dominant or subordinate to the other, or if the second language group outnumbers the target language group. At the individual level, Hansen Edwards (2008:251) notes that L2 learners “are not passive recipients of the target language”, and their production of the L2 may vary in terms of gender, social identity, accommodation to the interlocutor, level of access to the L2, and other factors. Learners may not necessarily have the standard L2 as their target of acquisition. Similarly, creoles are not the products of failed L2 acquisition at the societal level. For example, Major (2002:84) observes that a high level of access to the lexifier language does not necessarily mean that creole speakers will orient to superstrate norms.

Flege (2007) shows that even factors that may seem biological, such as age of acquisition, are confounded with social factors. In SLA it is generally thought that the earlier acquisition begins the better. Flege (2007) shows that Koreans who arrive in the United States at an earlier age have less accented English than those who arrive later, as would be expected. However, he cautions that there are social factors related to early age

of arrival. The critical period is not entirely responsible for the fact that early bilinguals produce sounds that are closer to the L2 target. For example, early arrivals to the U.S. are more likely to have monolingual English speaking friends and eventually marry monolingual spouses, whereas those who arrive later in life tend to seek out Korean-speaking friends and be married to Korean speakers. In other words, their social networks are quite different, and so their frequency of use of the L2 is also different. Flege does not investigate language attitudes in this study, but it is also reasonable to speculate that the early and late arrivals might also have differences in terms of attitudes or ideologies toward Korean and English that could influence what level they aim for as their L2 target.

In addition to the kinds of experimental phonetic methods used by Flege (2007) and others, Hansen Edwards (2008) reviews other types of studies that use a variety of methods to investigate social factors on L2 phonology. Approaches range from eliciting read speech to conducting sociolinguistic interviews, ethnographic observation, and self-reports. These types of methods have also been applied to the study of creole languages, although experimental phonetic methods have been rarely used. However, with creoles it is also important to include analysis of historical factors, such as the demographics and settlement patterns of the original contact situation (Arends 2008, Smith & van de Vate (2006).

3.4 Sociophonetic methods for the description of vowel systems

Creolists have rarely used sociophonetic methods to support phonological descriptions, but as Wassink (1999a, 2006) has demonstrated, the benefit of doing so is that they allow for more precise descriptions that can be used to make comparisons of vowel systems across varieties, either between different dialects of a creole or between a creole and its input languages. Describing the vowel system of a creole language only in terms of the number of vowel categories and basic quality of the vowels is uninformative if we wish to determine to what degree the language is similar to its substrates, superstrates, or adstrates. Superficially, for example, Cavite Chabacano is similar to the superstrate Spanish in that it has a 5-vowel system. However, it is quite likely that the Cavite Chabacano system is different from the Spanish system in many ways, either due to substrate/adstrate influence or internal language change. Differences between Cavite Chabacano and its input languages, as well as dialectal differences within Cavite Chabacano, can be more precisely analyzed using sociophonetic methods.

Sociophoneticians use a range of methods to produce detailed descriptions of vowel systems, taking into account not only F1 and F2 as the primary cues to vowel identity, but also secondary cues such as duration and F0 (e.g. Wassink 2006, Chládková et al. 2011, Escudero et al. 2009), and using derived measures such as vowel dispersion (Wright 2004), vowel category overlap (Wassink 2006), or the mean Euclidean distance between vowel categories in order to analyze how vowels are situated in relation to each

other in the vowel space. These types of methods of description allow for more accurate and detailed comparisons of vowel systems between dialects or across languages.

In addition to measuring F1 and F2 in this dissertation to describe the quality of Cavite Chabacano vowels, I have also included duration as a possible secondary cue to vowel identity and to investigate its role in the prosodic conditioning of the vowels. High vowels have intrinsically shorter duration compared to low vowels (Peterson & Lehiste 1960), but the effect sizes can vary language specifically. For example, Escudero et al. (2009) found that intrinsic vowel duration differences in Brazilian and European Portuguese are especially large. They also found that there is dialect-specific variation with respect to duration, with Brazilian Portuguese having longer stressed vowels compared to European Portuguese.

F1, F2, and duration measurements can also be used to calculate other measures related to how the vowel categories are situated within the vowel space. To calculate vowel dispersion, F1 and F2 are used to measure the Euclidean distance of each vowel token from the center of the vowel space. This method has been useful for studying the degree of vowel reduction or expansion in hypoarticulated or hyperarticulated speech. For example, Fourakis (1991) showed that the vowel space is smaller in unstressed and fast contexts and more expanded in stressed and slow contexts in American English. The calculation in his study was based on the Euclidean distance of each vowel token to a neutral reference vowel used to represent the center of the vowel space, with the same neutral reference point used across talkers. In later work, dispersion has been calculated as the Euclidean distance of each vowel token by a particular talker from the center of

that talker's individual vowel space, based on the grand mean of the F1 and F2 measurements across that talker's vowels. For example, Wright (2004) uses this way of measuring dispersion to compare the pronunciation of vowels in "easy" words (those with high frequency and low neighborhood density) versus "hard" words (those with low frequency and high neighborhood density) in American English. Wright finds that vowels in the hard condition are more dispersed than those in the easy condition, and that the point vowels /i, æ, a, ɔ, u/ had the greatest tendency to disperse. Similarly, Clopper & Pierrehumbert (2008) calculate dispersion to show that semantic predictability and regional dialect affect the size of the vowel space in American English. Vowels were found to have greater dispersion in contexts of low semantic predictability and more reduced in contexts of high semantic predictability, and Northern talkers had more extreme dialectal variants in high predictability contexts.

In this dissertation, I measure vowel dispersion for two purposes. First, I test whether Cavite Chabacano unstressed vowels are reduced (i.e. less dispersed) in comparison to stressed vowels, as Fourakis (1991) found in American English. Second, I investigate whether there are dialectal differences within Cavite Chabacano in terms of the overall size of the vowel space, similar to the differences that Guion (2003) and O'Rourke (2010) found among bilingual Quichua-Spanish vowel spaces compared to those of monolingual Quichua and Spanish speakers. Guion (2003) framed her analysis in terms of perceptual frameworks like SLM and PAM (Flege 1995, Best 1995), as well as typological theories on the phonetics of vowel systems such as Adaptive Dispersion

theory (Liljencrants & Lindblom 1972, Lindblom 1986) and Dispersion-Focalization theory (Schwartz et al. 1997).

Adaptive Dispersion theory predicts that the vowel categories in a system will be dispersed from each other in terms of vowel quality enough to maintain maximal contrast (in earlier versions of the theory) or sufficient contrast (in more recent versions of the theory) between categories. Vowel quality for a particular category can be more variable in smaller vowel systems because fewer contrasts need to be made, but it is less variable in bigger vowel systems because the vowel space is partitioned into more categories. For example, /u/ can be realized as [u o ʊ u] in 3-vowel systems, but its realization is more restricted to [u ʊ] in 9-vowel systems because contrast between neighboring categories in the more crowded vowel space must be maintained (Lindblom 1986:33). Thus monolingual Quechua and Tagalog speakers with 3-vowel systems are predicted to have vowel categories that are less dispersed in the vowel space compared to languages like Spanish that have larger vowel systems.²⁴

If it is true that the Caridad dialect of Cavite Chabacano is more Spanish-like in terms of its vowel system (Romanillos 2006) due to maintaining contrast between the mid and high vowels, then as in the situations with Quechua-Spanish bilinguals, it may have a restructured, larger overall vowel space compared to the San Roque dialect. San Roque may have a less dispersed vowel space if it is more influenced by the Old Tagalog 3-vowel system. On the other hand, if San Roque has more raising of unstressed /o/ and /e/, as previous phonological descriptions have found (German 1932, Miranda 1956,

²⁴ It should be noted that 5-vowel systems are relatively small as well, compared to the 9-vowel systems that Lindblom (1986:33) uses in his example.

Ramos 1963), then those particular vowels may have greater dispersion in San Roque compared to Caridad, even if the overall vowel space is smaller.

Another way of assessing how vowel categories are situated in relation to each other is Wassink's (2006) Spectral Overlap Assessment Metric (SOAM), which is used to calculate the degree of overlap between two categories. SOAM can model the vowel space in two dimensions (F1 x F2) or three (F1 x F2 x duration). Ellipses (in two dimensions) or ellipsoids (in three dimensions) are best fit to the data using least-squares fitting, and then overlap is calculated as the number of uniformly distributed test points in the area of overlap over the total number of test points in each vowel distribution (Wassink 2006:2346). An overlap percentage of 0-20% is classified as no overlap between vowel categories, 20-40% is classified as partial overlap, and over 40% is classified as complete overlap. Wassink demonstrates the use of the SOAM by comparing the tense vowels /i: a: u:/ (as in *beat, bought, boot*) and the lax vowels /i a u/ (as in *bit, bat, book*) in three varieties: American English (Pacific Northwest dialect), Jamaican English, and Jamaican Creole. In the traditional F1 x F2 space, it appeared that Jamaican Creole made no distinctions between the tense/lax pairs found in Jamaican or American English because they had overlapping measurements in terms of vowel quality. However, with the inclusion of duration in the SOAM three dimensional model, it was confirmed that there was actually no overlap, or only partial overlap, between the vowel categories in Jamaican Creole because it is vowel quantity rather than quality that distinguishes between these vowel pairs in the creole. Jamaican English was found to have distinctions similar to those in American English, based on vowel quality. By using

SOAM, Wassink was able to more accurately compare similarities and differences between the vowel systems of the more basilectal Jamaican Creole and the more acrolectal Jamaican English, as well as compare both varieties to American English.

In this dissertation, I use SOAM to assess the degree of overlap between /i/ and /e/ and between /u/ and /o/ in the Caridad and San Roque dialects of Cavite Chabacano. If San Roque has more vowel raising as has been previously claimed, then that dialect should have higher percentages of overlap between the high and mid vowel categories because the F1 and F2 measurements of the mid vowels would be similar to those of the high vowels. Less vowel dispersion in one dialect compared to the other might also account for higher overlap percentages between the high and mid vowel categories. If San Roque has a less dispersed vowel system compared to Caridad, then the front vowels /i/ and /e/ and the back vowels /u/ and /o/ may be situated closer to each other in the vowel space and have higher degrees of overlap.

3.5 Metalinguistic awareness, ideology, and identity in creoles

In addition to analyzing phonological and phonetic aspects of Cavite Chabacano, this dissertation presents data on the metalinguistic awareness of variation in the language, particularly as it relates to the vowel system. While conducting other fieldwork tasks and in everyday conversation with Caviteños, it was frequently mentioned that certain areas of the city spoke differently and had different “intonations”, which seemed to have partly to do with vowel variation, based on the kinds of examples and imitations

people gave. To follow up on these field observations, I added a perceptual dialectology map task to the study, as described in Chapter 4.

Perceptual dialectology is widely used to elicit folk beliefs about sociolinguistic variation (Preston 1999; Preston & Long 2002), but has not been commonly used in creole studies. This methodology includes using questionnaires or map labeling tasks to ask participants to identify areas where people talk similarly to or differently from them, what specific linguistic features they believe to be different, what kinds of social qualities they associate with these dialects or particular features, or how they rate different dialects based on specific qualities such as correctness or pleasantness (Preston 2002). While folk perception does not always align with observed linguistic production, the matches and mismatches between the two yield interesting insights into the ideologies that speakers have about how different language varieties are related to each other and which linguistic features carry social meaning.

This methodology has great potential for investigating how creole speakers classify different varieties of their languages, particularly in relation to the superstrate, substrate, and adstrate languages, and how their folk beliefs and ideologies may actually shape their linguistic perception (Niedzielski 1999) as well as their production (Irvine 2008). While there is a small body of literature on creole language attitudes (e.g. Rickford 1985, Mühleisen 2002), so far there are few studies focusing on the metalinguistic awareness of creole or pidgin speakers, and even fewer using the methods of perceptual dialectology. As Mühlhäusler (1983:102) argues in his work on metalinguistic awareness in Tok Pisin, information about what speakers believe about

their own language is useful to language planners, and from the standpoint of pidgin and creole research, it helps to avoid imposing the researcher's own classifications on the language and to study its sociohistorical development.

The only previous study to use a perceptual dialectology map task focusing on a creole is Drager & Grama's (forthcoming) work on Oahu, Hawaii. Participants labeled on a map of Oahu where they believed Pidgin, Hawaiian English, and other languages to be spoken. The participants identified areas with "heavier" or "lighter" pidgin (i.e. closer to or further from Hawaiian English) and associated particular places or ways of speaking with different ethnicities. Drager & Grama speculate that some of the commentary about ethnic differences may be related to the historically segregated settlement patterns of the Hawaiian plantations.

Metalinguistic awareness and language attitudes in Jamaica have been well documented (Wassink 1999a, 1999b; Irvine 2004, 2008). Wassink (1999a, 1999b) studied the folk perception of variation in Jamaican Creole by interviewing speakers about what terms they use to describe their language (e.g. "slang", "patois"), what kind of regional or other variation they think there is in Jamaica, and what role they believe the creole should have in Jamaican society. She gives examples of specific linguistic features that participants associate with acrolectal, mesolectal, and basilectal varieties of the creole. Irvine (2004, 2008) focuses on how Jamaicans with professions requiring them to speak "good" English make the distinction between Standard Jamaican English and Jamaican Creole, both ideologically and in terms of their phonological production. As

Irvine (2008:22) puts it, “The form English takes in the Jamaican social context, particularly its pronunciation, is shaped in part by speakers’ idea of what Creole is”.

Roberts (2004) uses historical evidence from life histories written by Hawaiian-born teenagers in the early 1900s to investigate the roles of ideology, group identity, and stylistic variation in the formation of Hawaiian Creole. She draws upon Bell’s (1997) work on stylistic convergence and divergence and Gal & Irvine’s (1995) work on ideology to frame her analysis of the texts. The teenagers’ comments about their language use showed that they diverged stylistically not only from English, but also from their ancestral languages during that time period. They also differentiated themselves stylistically from the foreign-born population and the locally-born white population in other ways (e.g. clothing styles). Roberts argues that in the formation of the creole, group identity coalesced as young people wanted to be seen as locally-born rather than foreign-born, while still distancing themselves from seeming Haole (white) by not conforming to standard English. Roberts’ proposal aligns with Siegel’s (1997) model of pidgin/creole development, based partly on LePage & Tabouret-Keller’s (1985) acts of identity framework, which views creole formation as the leveling of heterogeneous variants as social unification takes place (Roberts 2004:332).

Another important concept that is relevant to metalinguistic awareness and language attitudes is authenticity. As Bucholtz (2003), Irvine (2008), and Lacoste & Mair (2012) observe, the concept of “authenticity” has often been imposed by sociolinguists and creolists onto the language varieties under study, with the most vernacular or basilectal varieties assumed to represent the most authentic or natural speech patterns of

the community. Methodologically, this assumption has led to problems when, for example, creolists discard data because they think it is not basilectal or really “creole” enough (Irvine 2008). Instead, authenticity should be considered from the perspective of the language user (Bucholtz 2003, Irvine 2008, Lacoste & Mair 2012), through ethnographically informed study of what the speakers themselves consider to constitute their language variety, how it differs from other language varieties, what is authentic, and what is prestigious. In this dissertation, I use the perceptual dialectology task to access how Cavite Chabacano speakers view the dialects of their language in relation to each other and in opposition to Tagalog, Spanish, and English. By using this approach, I avoid assumptions about what linguistic variants, or what languages, are considered authentic or prestigious by Chabacano speakers and other Caviteños.

These different studies provide insights about the role of language attitudes and ideology in how creole speakers construct their identities in relation to other linguistic groups they are in contact with, either synchronically in modern creoles (e.g. Drager & Grama forthcoming) or historically at earlier stages of creole development (Roberts 2004). Irvine’s (2004, 2008) work shows how people’s language ideologies can actually shape phonological production, and Roberts (2004) makes the important point that creoles diverge linguistically and stylistically not only from their superstrates, but also from their substrates. By taking this type of sociolinguistic approach in this dissertation, I show how dialectal variation in the vowel system (and other aspects of Chabacano variation) takes on social meaning in how Cavite Chabacano speakers view their identity

in relation to the superstrate Spanish and substrate Tagalog, and how folk beliefs about this variation are related to the sociohistorical development of the language.

3.6 Summary

In this dissertation, I argue that insights from the study of SLA and bilingual phonology, along with the methods of sociophonetics and perceptual dialectology, can be fruitfully applied to the study of creole phonology, if appropriate caution is taken in generalizing results from a creole in its modern state to what it may have been like at earlier stages. Rather than focusing on broad phonological categories, I take a fine-grained phonetic approach in order to identify possible features of the Cavite Chabacano vowel system that are related to superstrate or substrate influence. My goal is not to describe how the phonology of Tagalog speakers was restructured during creole genesis, but to consider diachronically how the phonological system of Cavite Chabacano developed over time throughout the Spanish period until the present day. I ground my phonetic and sociolinguistic findings about modern Cavite Chabacano in what we know about the substrate and superstrate vowel systems in their modern state, their documented historical patterns of variation in the relevant dialects (i.e. Mexican Spanish, Peninsular Spanish, and Cavite Tagalog), and the sociohistorical factors that may have affected the relative levels of superstrate and substrate influence in the development of the creole.

Chapter 4: Field Methods

4.1 Introduction

This study combines the methodologies of sociolinguistics, phonology, and phonetics in order to provide a holistic analysis of how the Cavite Chabacano vowel system formed and developed over time. Phonetic methods are used to identify possible areas of superstrate or substrate influence that would not be evident through phonological analysis alone, and sociolinguistic methods are used to identify attitudes toward variation in the vowel system and possible social motivations for the way the system developed. In this chapter, I describe the fieldwork undertaken for the study. Section 4.2 provides an overview of the fieldwork, 4.3 describes the recording conditions, and 4.4 gives background information about the participants in the study. Section 4.5 focuses on the specific tasks used to elicit data, and 4.6 summarizes the overall goals of the different types of methodology described.

4.2 Overview of the fieldwork

The data for this study were collected during three fieldwork trips to Cavite City: four months from October 2010 through January 2011, three weeks in August 2011, and three more weeks during June and July 2012. During each trip, I lived with a host family who spoke primarily Tagalog and English, but had older members who were native Chabacano speakers. This situation is typical of Cavite City families with Chabacano heritage.

Subject recruitment was done through the friend-of-a-friend method, which was necessary given the severely endangered state of the language and how difficult it is for an outsider to find Chabacano speakers in Cavite City. Initial contact with the Cavite Chabacano community was made on the internet, first with the diaspora organization Los Chabacanos of Cavite City (based in San Diego, CA), and then through a Facebook group dedicated to preserving Chabacano language and culture, *Chabacano Siempre!* ('Chabacano Always!'). It is through this Facebook group that I was able to find a host family.

My research was greatly assisted by members of *Chabacano Siempre!* and other local organizations, including the Cavite City Tourism Council and the Cavite City Library and Museum, which are both run by the city government. Some of my initial contacts were also retired teachers. For these reasons, many of the participants in the study, especially the ones recorded during the first trip, were local government workers and teachers. As I became more familiar with the community, I made other contacts and

was able to visit people with different kinds of backgrounds. I was usually introduced to these people by my host family or people who had already participated in the study.

Through participant observation and by drawing upon my knowledge of Spanish and Tagalog,²⁵ I learned Chabacano well enough to be able to converse with the participants and conduct elicitation tasks primarily in that language. English and Tagalog were also sometimes used during elicitation by both the informants and me. Although some instances of switching between languages were due to my lower proficiency in Chabacano, especially in the beginning of the fieldwork, codeswitching between all three languages is common among Cavite Chabacano speakers in everyday speech. I spoke Spanish only during a few rare instances during fieldwork, for example, when being introduced to a priest who knew Spanish. Neither the consultants nor I used Spanish during elicitation sessions. More detailed information about the participants' language proficiency is given in section 4.4.

I collected a total of 85 hours of recordings ranging from controlled to spontaneous speech types. During the first two trips I recorded word lists, story reading and retelling, picture descriptions, sociolinguistic interviews, songs, and spontaneous group conversation. During the third trip, I continued these tasks and added a perceptual dialectology map task and a carrier phrase task. All of the structured tasks, including the sociolinguistic interviews, were usually conducted together during one elicitation session because it proved difficult to follow up with participants who did not complete every task

²⁵ Apart from the fieldwork, I also spent six months undergoing intensive language training in Filipino/Tagalog: four months total at the Southeast Asian Studies Summer Institute at the University of Wisconsin-Madison (two months in 2008 and two months in 2010), and two months in the Advanced Filipino Abroad Program at Ateneo de Manila University in the summer of 2011.

in one sitting. Spontaneous group speech was usually recorded on separate, more informal occasions, for example, while participant-observing mahjong games.

This dissertation relies primarily on the word list task, the carrier phrase task, and the perceptual dialectology map task. In addition, information about the personal background of each participant (e.g. residential history, language proficiency) was gathered during the sociolinguistic interviews, and the phonological description in Chapter 5 also contains examples from the story reading and retelling task. I provide brief descriptions of each of these five tasks in Section 4.5. Examples of the elicitation materials used in these tasks are provided in Appendix A. Since the word list and carrier phrase tasks serve as the basis for Chapter 6, and the perceptual dialectology task for Chapter 7, more detailed descriptions of the methodology used in those tasks can be found in those respective chapters.

4.3 Recording conditions

The majority of the recordings for all tasks were made using cardioid Shure SM10A head-mounted microphones with a Zoom H2 digital recorder at a 44.1-kHz sampling rate. Recording conditions were not ideal because of the presence of background noise typical of fieldwork (e.g. birds, yelling street vendors), but the headset microphone was effective in reducing this noise and producing high quality recordings. Efforts were made to record in quiet rooms when possible, although in some cases working in a noisy room was unavoidable (e.g. when recording people in the workplace).

With some participants, it was quieter to work outdoors than inside their home. I also made an effort to arrange seating when possible so that unavoidable sources of noise, such as electric fans or passing cars, were situated in front of the participant rather than behind them, which was quite effective in minimizing the noise.²⁶

During sociolinguistic interviews and the perceptual dialectology tasks, the main participant wore the Shure SM10A, and I usually wore another one unless there was a third person present, in which case I used a unidirectional, table-mounted ATR-20 microphone to capture our end of the conversation. The two microphones recorded to separate channels in order to facilitate the transcription and analysis of overlapping speech. Interviews conducted during the second and third trips to the field were also recorded with a Zoom Q3 HD video camera, with the purpose of donating the videos to local cultural institutions and the participants' families. Participants in these video recorded interviews were still audio-recorded separately on the H2 with the headset microphone in order to ensure recordings optimal for phonetic analysis. Participants for the most part had no objections to wearing the headset and did not express feeling uncomfortable or self-conscious wearing one. Only one person asked not to wear it, so she was recorded using the ATR-20.²⁷

²⁶ In the tropical Philippine climate, especially working with elderly speakers, I consider the use of electric fans unavoidable. With the cardioid polar pattern, the Shure SM10A is sensitive to sounds coming in front of it (i.e. the speaker's mouth, and to a lesser extent other sources behind the speaker), but is much less sensitive to sounds coming from behind it (i.e. facing the speaker).

²⁷ This person's objection to wearing the headset was not that she was uncomfortable with the technology, but rather that it would flatten her hairstyle.

4.4 Overview of the participants

A total of 55 speakers were recorded during the three trips to Cavite City. Not every speaker completed each task, and eight were recorded only in spontaneous group conversation without individual microphones, leaving 47 speakers recorded individually in more controlled speech styles. The following subsections specify how many of these 47 people participated in each of the five tasks used in the dissertation.

As mentioned in Chapter 2 (2.5.3), Cavite Chabacano is severely endangered, with only about 3,000 remaining speakers out of a total city population of 101,120. Most of the participants were over age 50 and from the districts of San Roque and Caridad. This sample of 47 speakers is representative of the broader Chabacano population in terms of their age, where they live, and their fluency in Tagalog and English. It may be the case that the sample is biased toward middle class, educated speakers because of who my primary contacts in the field were and who they introduced me to through their social networks. However, as described below, all education levels are represented in the sample, and the participants had a range of different types of occupations.

The language endangerment situation made it difficult to recruit equal numbers of participants in each demographic category. For the age of the 47 main participants, the range is 20-87 years old, but the median age is 61. Only eight participants were below age 50 at the time of recording.²⁸ It also proved difficult to recruit speakers from certain districts of the city. For the historical reasons discussed in Chapter 2, there are few

²⁸ Five of these seven participants were 48-49 years old, one was 39, and two were in their 20s.

remaining Chabacano speakers who grew up in the areas of Cavite Puerto and San Antonio, so the majority of the participants were from San Roque and Caridad. However, as Table 1 shows, the sample is well balanced with respect to gender in these two districts.

District	Male	Female	Total participants
Caridad	9	9	18
San Roque	12	12	24
San Antonio	1	3	4
Cavite Puerto	0	1	1
Totals	22	25	47

Table 1. District and gender of participants recorded in controlled speech styles during fieldwork

For the most part, the Chabacano speakers I interviewed grew up in one district or neighborhood of Cavite City and continued to live there as adults, or returned to their home district after leaving the city at some point to attend college or to work. People who had changed districts some time during their lives were classified under the district where they spent the majority of their time before age 20. No participants were originally from the district of Dalahican, so it is not included in the table. A few participants technically live in the Santa Cruz district, but identify as being from Caridad, either because they lived there previously or because they do not think of the neighborhoods in terms of how

the official map boundaries of modern Cavite City are drawn. They are included in the Caridad category in Table 1.²⁹

As mentioned in Chapter 2, within San Roque and Caridad there are 4 *barrios* ‘neighborhoods’ that are said to have particularly high concentrations of Chabacano speakers and have different accents: Calumpang in Caridad, and Cagayan, Ganglely, and San Jose in San Roque. Each of the four neighborhoods, as well as other areas of San Roque and Caridad, is represented in the corpus. Five of the 18 Caridad participants identified themselves as being from the Calumpang *barrio*, while the other 13 live in other areas of the district. Of the 24 San Roque participants, nine identified as being from Ganglely, three from San Jose, and two from Cagayan, while the remaining 10 live in other areas of the district.

Table 2 summarizes the education backgrounds of the participants. As the table shows, the the highest level of education completed by the participants ranged from elementary school to graduate school.

District	Elementary	High school	College	Graduate	Unknown	Total
Caridad	0	3	13	1	1	17
San Roque	1	8	13	2	0	24
San Antonio	3	0	1	0	0	4
Cavite Puerto	0	0	1	0	0	1
Total	4	11	28	3	1	46

Table 2. Participant education backgrounds (highest level completed) by district

²⁹ The Cavite City district locations are presented in Map 4 (section 2.5.2).

Most participants have a college or high school diploma. A few high school graduates did not complete a traditional college degree, but do have vocational training either through the U.S. Navy or local schools. It should be noted that educational standards were different for the eldest generation. Three of the participants with elementary school as their highest completed level of education are over 80 and report having had their educations interrupted by World War II. Two of them learned trades to support their families (sewing and carpentry), but one of them went on to have a career as a teacher. As previously mentioned, many of the participants have similar backgrounds because of my contact with city government workers and retired teachers, but there are also many other types of occupations represented in the study, including retired navy workers, housewives, shopkeepers, engineers, medical professionals, fishermen, electricians, and carpenters, which makes the sample more representative of the broader population. The Caridad and San Roque districts both had a mix of people with jobs requiring different education levels.

I also gathered information about each participant's language background. 44 of the 47 speakers claim Cavite Chabacano as their first language. The three who do not are on the younger end of the sample (26, 48, and 49 years old) and reported using primarily Tagalog or English in the home and with peers, but learning Chabacano from older relatives. While many of the other 44 participants no longer speak the language with their children or grandchildren, they were raised speaking it and report that they continue to use it on a regular basis with other family members and friends. A few participants reported that they did not learn Tagalog until they started elementary school.

All speakers are also fluent in Tagalog and all but two speakers report that they speak English.³⁰ Participants who attended college before 1987 were required to take Spanish courses as part of their degrees,³¹ and some even report studying the language in high school. However, most reported having difficulty with the subject. It was common for people to claim that the Spanish vocabulary was easy, but that the grammar was hard because in their view, Chabacano has “no grammar” or “no conjugations”. Only four participants consider themselves fluent in Spanish. Some speakers of the eldest generation recall having older relatives who spoke fluent Spanish as well as Chabacano, but they report that they grew up with the creole as their primary language.

In addition to Chabacano, Tagalog, English, and Spanish, a few participants report having varying levels of command of other languages, depending on if they had spouses or other family members from other regions, worked in other areas of the Philippines, or had gone abroad as Overseas Filipino Workers. These other languages mentioned by participants include the Philippine languages Visayan,³² Kapampangan, and Ilocano as well as the foreign languages Greek and Arabic.

³⁰ Two speakers reported speaking only a little English, but likely still have some proficiency in the language due to its dominance in the school system and the media. Taglish, or codeswitching between Tagalog and English, is also common both nationally and locally, and these speakers did use some Taglish with me in their interviews.

³¹ As mentioned in Chapter 2, the Spanish requirement was lifted when a new constitution was established in 1987.

³² I use “Visayan” here as reported by the participants. This term is commonly used by Filipinos as a linguistic and ethnic label for those from the Visayas region of the central Philippines, but linguists reserve it to refer to the major language family found there, which includes several distinct languages. The participants were likely referring to Cebuano, but the term could possibly also include Hiligaynon or other Visayan languages.

4.5 Elicitation tasks

Because Cavite Chabacano is endangered and was previously not well documented, my goal at the beginning of fieldwork was to record as broad of a range of speech types as possible to thoroughly document the language, and then choose particular phenomena to focus on for this dissertation. I will be donating a portion of the corpus to local institutions as a way of giving back to the community, so I also collected data that are interesting culturally as well as linguistically (e.g. interviews and songs). These are the reasons that I conducted several different tasks that elicited a range of controlled to spontaneous speech types. The more controlled tasks, such as the word list, story reading, and carrier phrase tasks, were used for targeting certain consonants and vowels in different environments and to limit the pragmatic contexts of the utterances. These controlled tasks were necessary in order to produce relatively balanced datasets that represented the range of phonemes included in the study, and to ensure that the data from each participant would be comparable. It is the word list task and carrier phrase task that form the basis for the analyses in Chapters 5 and 6. The story reading task is also used for some examples in Chapter 5.

The more spontaneous speech types, such as the picture description task and the interviews, are not acoustically analyzed in this dissertation because they do not contain a large, balanced sample of all of the vowels in the different phonetic environments under investigation in the study. However, the interviews were used to obtain information about the social backgrounds of the participants, such as their personal history, what languages

they speak, and what their attitudes are toward Chabacano. Following up on some interesting commentary about language variation that frequently came up during these interviews, as well as in casual conversation while living in Cavite, the perceptual dialectology task was used to further investigate the folk beliefs and attitudes toward variation in Chabacano.

The word list, carrier phrase, story reading and retelling, and perceptual dialectology tasks are described further in the following subsections, which each focus on the overall goals of the tasks, give a brief overview of the methodologies used, and evaluate the methodological strengths and weaknesses of the tasks.

4.5.1 Word list task

The data from this task were used to support the phonological description in Chapter 5, combined with examples from dictionaries and from previous phonological descriptions Cavite Chabacano, and they were also used for the acoustic description of the vowel system in Chapter 6. More specific details about the data in the task, such as the origins of the different lexical items elicited (i.e. how many were Tagalog, Spanish, or English-based), or the specific number of vowel tokens elicited in each vowel category and prosodic environment, are given in Chapters 5-6. A full list of the different lexical items elicited during the task, along with transcriptions and the language of origin of each word, can be found in Appendix A.

The purpose of this task was to collect data in semi-controlled one-word utterances for both the phonological and phonetic analyses in this study. It was broadly

designed to elicit a range of all consonants and vowels in different segmental and prosodic environments in order to be able to describe their full distributions. The previous descriptions by German (1932), Ramos (1963), and Lipski (1986, 1987) were used to identify particular phonemes that should be targeted for further investigation in this study. For example, as discussed in Chapter 2 (2.5.1), these sources sometimes disagree or are unclear about whether /k/, /p/, and /ʔ/ are phonemic in Cavite Chabacano and whether /r/ is distinct from /r/, and they describe phonological variation in the language (e.g. /s/ aspiration, /r/ assibilation and aspiration, [r] ~ [l] alternation, and mid vowel raising). Therefore, pictures of words targeting these sounds in different environments were included in the task (e.g. word-initial /k/ in *llabe* ‘key’ and intervocalic /k/ in *repollo* ‘cabbage’). After the first field trip to Cavite City, I decided to focus the phonetic analysis on the vowel system. This task was then used to investigate how the vowel system and the prosody of Cavite Chabacano interact at the word level by comparing vowels in stressed and unstressed syllables as well as in word-final and nonfinal positions.

There were 42 participants in this task: 21 from San Roque (11 men, 10 women), 17 from Caridad (8 men, 9 women), and 4 from San Antonio (1 man, 3 women). They were presented with a series of pictures on PowerPoint slides shown on a 10-inch laptop screen, rather than through a written list. The slides contained 120 different pictures, but because there was variation in the responses to each picture and participants often gave more than one answer, the task elicited 420 unique lexical items. This methodology was chosen because although Chabacano speakers of all educational backgrounds are literate

in Tagalog and English, Chabacano is not taught in schools and does not have a widely accepted standard orthography. Participants reading Chabacano aloud are often influenced by spelling pronunciation and object to forms they perceive as not belonging to their dialect, as I observed when conducting read speech tasks. The pictures were also easier to use than written materials for older participants with weak vision.

As described above, the pictures included words containing sounds likely to show phonological variation within or between speakers. For example, I included words that might potentially show variation between [r] and [l] in coda position (e.g. [muher] ~ [muhel] for *muher* ‘woman’), and included words that would elicit all five vowels in unstressed and stressed syllables and in different positions within the word/phrase. The number of tokens in each vowel category was not very even because the task was broadly designed to target different kinds of consonants as well as vowels, but the resulting dataset of 18,311 vowel tokens was large enough for each vowel category to have a substantial numbers of tokens in different prosodic environments, and ensured that reliable statistical analysis using mixed-effects modeling could be done despite the imperfectly balanced design.

The words elicited during the task had 1-5 syllables with different lexical stress patterns (antepenultimate, penultimate, and ultimate stress). The following minimal pairs for lexical stress were also included: *gwárdja* ‘guard (noun)’ and *gwardjá* ‘to guard (verb)’, *pláncha* ‘iron (noun)’ and *planchá* ‘to iron (verb)’, *tápa* ‘dried beef’ and *tapá* ‘to cover’, and *kása* ‘house’ and *kasá* ‘to marry’. In order to account for potential interaction between word-level stress and post-lexical phrasal position (e.g. phrase-final prominence

unrelated to stress), the syllable position of each vowel within the word/phrase was also taken into account in the phonetic analysis.

Using pictures instead of written word lists had its drawbacks; for example, speakers sometimes reacted to pictures with laughter, surprise, or confusion, thus producing different kinds of utterances. As mentioned above, it also resulted in a great deal of lexical variation, with speakers often listing multiple Chabacano words in response to the picture, or using Tagalog or English instead. This variation resulted in some loss of control over the number of vowel tokens elicited and over their phonetic environments. However, using this method was useful for describing the kind of dialectal variation there is between Cavite City districts, and in determining how influenced participants are by other languages.

The task was also effective in avoiding the problems associated with using written materials, since most Cavite Chabacano speakers are not used to reading in their language. For example, there is dialectal variation in how they pronounce *pájaro* ‘bird’, as either [‘paharo] or [‘paro], with the latter found mostly in Caridad. Additionally, some San Roque speakers also produce [‘paharu], raising the final /o/ to [u], and some Caridad speakers produce [‘pafiro], with a preaspirated trill or tap. A written word list may not elicit all of these different forms because speakers may be influenced by the orthography when reading aloud, and they may even produce variants that they normally would not in more spontaneous speech, such as pronouncing “silent” <h> in words like *harina* ‘flour’.

4.5.2 *Carrier phrase task*

Along with the data from the word list task, the data from this task were used for the acoustic description of the vowel system in Chapter 6. More specific details about the data in the task, such as the full set of target words and the specific number of vowel tokens elicited in each vowel category and prosodic environment, are given in that chapter. Appendix A includes examples of how the task instructions and stimuli were presented to the participants.

This task was designed to complement the data obtained from the word list task in two ways. First, it was designed to obtain vowel tokens from utterances longer than one word in order to investigate if the results from the word list task would hold when the target words were part of a longer phonological phrase. For example, it was expected that lexical stress would be marked by higher F0 and longer vowel duration in the production of isolated words, but according to Ing (1968), nonfinal stressed syllables in Zamboanga Chabacano are sometimes not marked by pitch movements in phrases longer than one word, and Anderson (2006) proposes that Tagalog only marks tonal prominence at the right edge of the phrase. These findings suggest that word-level prosody in Cavite Chabacano could interact with post-lexical prosody in longer utterances like those elicited in the carrier phrase task. Second, this task was designed to elicit a more balanced sample of the five vowel categories in different prosodic contexts, in order to compensate for the lesser degree of control in the picture-based word list task. This balancing of the dataset was accomplished by targeting a set of words that consisted of minimal pairs or near-minimal pairs for both vowel category and stress.

Because this task was implemented only during the third trip to Cavite City, fewer people participated in it compared to the other tasks, and it was more difficult to balance the sample for gender and district. There were a total of 15 participants: 9 from San Roque (6 men, 3 women) and 6 from Caridad (2 men, 4 women). There were no participants from San Antonio.

Like the word list task, the elicitation materials for this task were presented on PowerPoint slides on a 10-inch laptop screen, but this time using written sentences instead of pictures. The two carrier phrases *Hablá _____* ‘Say _____’ and *Hablá _____ con eli* ‘Say _____ to him’ were used to elicit 20 different target words (each containing one target vowel) in phrase-final and nonfinal contexts, with each target word being read in each of the phrases at least three times. The target words consisted of minimal pairs or near-minimal pairs for stress (e.g. *masa* ‘dough’ and *masá* ‘to knead’) as well as vowel category (e.g. *masa* ‘dough’, *mesa* ‘table’, *misa* ‘Mass’, *musa* ‘muse’, and *moda* ‘fashion, way’). The task yielded a total of 1,963 vowel tokens, which is not a perfectly balanced dataset, but is much more even across vowel categories and prosodic positions than the word list task was. Imbalances in the dataset resulted from some data loss (e.g. tokens discarded due to background noise or speech disfluency) and from some extra repetition of certain target words. More specific details on the elicitation methods and how these tokens were distributed across categories is provided in Chapter 6.

One disadvantage to using this task with Cavite Chabacano speakers is that, as described in the previous subsection, they are generally well-educated but are not used to reading in Chabacano. However, although the language has no standard orthography, this

task was implemented during the final trip to Cavite because participants proved to have little difficulty with the story reading task during earlier trips to the field (see Section 4.5.3). Some speakers were influenced by spelling pronunciation or had some disfluencies in reading, for example, pronouncing the <h> in *hablá* ‘say’ or putting a long pause between *Habla* “_____” and *con eli* in the longer carrier phrases. However, the task was generally successful, and the less natural speech was a trade off for having a more balanced and controlled dataset to complement the word list task.

There are several advantages to using this task to supplement the word list data. As described above, this task included a more balanced sample of the vowels in different prosodic contexts, since the word list task was designed with the broader goal of eliciting different consonants as well as vowels. Another is that there is greater control over the target words elicited from each speaker, unlike in the word list task where people often produced multiple responses to the pictures presented to them. A third advantage is that in terms of pragmatic context, the utterance type was more uniform than in the word list task, when people had different kinds of reactions to the pictures (e.g. surprise) and phrased their utterances accordingly, which could affect vowel duration, F1, F2, and F0 measurements. Such effects are minimized in this task because everyone read the same two types of sentence frames.

4.5.3 *Reading and retelling task*

For this task, the participants read a folk tale and a short essay, and then retold them in their own words. The purpose of this task was to obtain longer samples of speech

than what was recorded in the word list and carrier phrase tasks, and in a future study, to eventually be able to compare their read speech styles with slightly more spontaneous speech styles from the retelling portion of the task. These data were not acoustically analyzed for this study, but a few examples from this task are given in the phonological description in Chapter 5 in order to contrast how participants produced certain target words in the word list task, as isolated citation forms, and how they produced the same target words as part of a longer utterance. There were 45 participants: 23 from San Roque (11 men, 12 women), 17 from Caridad (8 men, 9 women), 4 from San Antonio (1 man, 3 women), and 1 from Cavite Puerto (1 woman).

The folk tale “*El chonggo y el pagong*” (‘The Monkey and the Turtle’) was chosen because it is a common story in the Philippines and would thus already be familiar to the participants, and easy for them to recall from memory during the retelling portion of the task. There is already a version of this story in German’s (1932) collection of Cavite Chabacano texts, but local educator and Chabacano textbook author Enrique Escalante found it old-fashioned when I showed it to him, and he wrote a new version for me to use in this task that used more modern language. In addition to the older Cavite Chabacano version in German (1932), versions of “The Monkey and the Turtle” have already been linguistically analyzed in work on other Philippine languages (Bloomfield 1917, Gonzalez 1982), including Zamboanga Chabacano (Forman 1972). The Cavite Chabacano version used in this study may be useful for later comparison with these other languages. After the folk tale, the speakers were asked to retell it in their own words and describe the moral of the story. The other reading, taken from a newsletter by the

Chabacano Siempre! ‘Chabacano Always!’ organization, consisted of three paragraphs about Caviteño cuisine and mealtime customs. After reading the essay, the participants commented on it and further discussed Caviteño food and how they typically prepare meals. Appendix A contains the full text of both readings.

With each participant reading the same content, it is easy to compare the same phonetic strings across speakers. The retelling of the stories in the participants’ own words also allows for comparison of their read speech styles with slightly more natural speaking styles, while still yielding a number of easily comparable tokens of certain recurring words (e.g. *comida* ‘food’, *chonggo* ‘monkey’, *pagong* ‘turtle’, etc.) in different prosodic contexts. Some of these lexical items, such as *plátanos* ‘banana’, *pono* ‘tree’, and *chonggo* ‘monkey’ were also elicited during the word list task, so comparisons can be made between how they were produced in that task and in this one. Comparative examples like this can be found in Chapter 5, illustrating the interaction between lexical stress and post-lexical prominence in the different task types.

For this reading task, I used the spelling system promoted by Escalante (2005, 2010, 2013) in his textbooks and in his Chabacano classes. This orthography generally follows Spanish conventions for Spanish-based lexical items, and Tagalog conventions for Tagalog-based items. However, there are some exceptions. For example, *chonggo* ‘monkey’ comes from Mexican Spanish *chango*, but is written with <ng> to represent [ŋ], as in Tagalog orthography. Occasionally <f> is used where Chabacanos would usually pronounce [p] (e.g. *café* ‘coffee’), but is used for words that are spelled with <v> but pronounced [b] or [β] in Spanish (e.g. *bo* ‘2SG (intimate)’ < Sp. *vos*).

The way the vowels are written in Cavite Chabacano can vary from standard Tagalog practice. For example, the word for ‘peanut oxtail stew’ is spelled *kari-kari*, but in Modern Tagalog it is written as *kare-kare*. This spelling reflects the Chabacano pronunciation that comes from older Tagalog, before the Tagalog sound change of phrase-final high vowel lowering took place. Interestingly, Escalante promotes the spelling of final /i/ in verbs as <e>, as in *respondé* ‘to respond’ (< Sp. *responder*), even though it is very rare for participants to pronounce that vowel as [e]. The spelling reflects the origin of many Chabacano verbs in the Spanish *-er* infinitive form, and not the usual Cavite Chabacano pronunciation.

Although most participants are not used to reading or writing in Chabacano, they generally had little trouble reading the texts, despite occasional issues with spelling pronunciation. For example, a few speakers pronounced *gente* ‘people’ as [dʒente] rather than [hente] (< Sp. /xente/ or /hente/), which never occurs in normal Cavite Chabacano or Spanish speech and is not the result of Tagalog orthographic influence. It remains to be seen in future acoustic studies of this task whether the spelling of the vowels or consonants had any significant effect on pronunciation.

4.5.4 Sociolinguistic interviews

Sociolinguistic interviews were conducted in order to to learn more about the personal backgrounds of the participants, and for future studies, to obtain data in more spontaneous speech styles compared to the previously described more structured tasks. The linguistic data are not included in the phonetic or phonological analysis in this

dissertation. However, the interview process is described here because the social aspects of the interviews are crucial to each of the remaining chapters, and for many participants, the perceptual dialectology task (described in 4.5.5) was conducted as part of their sociolinguistic interview. The full script used during the interviews is included in Appendix A.

44 speakers were interviewed: 24 from San Roque (12 men, 12 women), 17 from Caridad (8 men, 9 women), and 4 from San Antonio (1 man, 3 women). In addition to questions asking explicitly about Chabacano and their use of other languages, participants were asked about a variety of topics such as their childhood, their hobbies, travel and tourism, the history of the town, how holidays in Cavite City are celebrated, Filipino folk stories, etc. The script used during the interview evolved as I gained more experience living in Cavite City. I wrote the questions before fieldwork began and later had them checked for grammar by a native Chabacano speaker after I arrived in Cavite. They were later modified over the course of fieldwork as my Chabacano improved and I had more practice with which questions were successful in encouraging conversation and which were not. The script was not followed exactly, but rather was used to loosely steer conversation with each particular speaker, with some questions being skipped and spontaneous follow up questions being added as necessary. For example, most of the participants in their 50s or younger had little to say about the topic of World War II, or had little interest in it, so in their interviews that line of questioning was not as detailed as it was for older participants.

The interviews were conducted almost entirely in Chabacano, with occasional switching to Tagalog or English; as previously noted, such codeswitching is typical for Chabacano speakers even without my participation in the conversation, as evidence from other types of data collected during fieldwork shows (i.e. recorded spontaneous group speech and a written corpus). Typical interviews lasted at least 30-45 minutes, with a few as long as 2 hours.

4.5.5 *Perceptual dialectology map task*

This task was used to complement the linguistic data elicited in the word list and carrier phrase tasks with data about the folk perception of variation in Cavite Chabacano, particularly with respect to phonology and the vowel system. It was implemented during the third trip to Cavite after realizing that during everyday conversation and in sociolinguistic interviews from the first two trips, Cavite City residents of all language backgrounds commented very frequently on Chabacano dialectal variation within the city, explicitly mentioning vowel pronunciation, “intonation”,³³ and pronoun variation, often in conjunction with social judgments about which ways of speaking sounded better or more polite. Although the sociolinguistic interview questions included a great deal about language use and attitudes, and there were questions asking the participants to compare Cavite Chabacano to the Ternate and Zamboanga varieties, this perceptual dialectology task was used to more explicitly elicit folk knowledge about Chabacano

³³ “Intonation” seems to mean something more like ‘accent’ in the Philippines, including but not limited to intonational or prosodic features. This English term is used interchangeably in Cavite City with Tagalog *punto* ‘accent, tone’ and Chabacano *tono* ‘tone’. See Chapter 7 for more detail.

variation within Cavite City. One central question addressed by this task is whether or not the phonological variation observed in this study has any social meaning in terms of how speakers associate it with either the superstrate Spanish, the substrate/adstrate Tagalog, and possibly the adstrate English.

There were 27 participants in this task: 12 from San Roque (8 men, 4 women), 14 from Caridad (6 men, 8 women), and 1 from San Antonio (1 woman). Either as a stand-alone task or as part of the sociolinguistic interview module on the participants' language backgrounds, participants were presented with a map of Cavite City and instructed in Chabacano to draw and label where on the map people still speak Chabacano. More specific details about the methodology of this task can be found in Chapter 7.

One drawback of this task is that most people did not write very many comments or labels on the maps. However, the maps were useful props for encouraging discussion, and the participants were prolific in their oral commentary even if what they wrote on their maps was not very detailed. The task was audio-recorded, and in a few cases also video-recorded, in order to capture all of these comments. The recordings were also useful for capturing participants' vocal imitations of the speech in other Cavite City neighborhoods or in Ternate and Zamboanga. These imitations can be used to show the kinds of linguistic features people exaggerate to sound like people from different areas of the city.

4.6 Summary

The combined use of these five different types of tasks produces a nuanced picture of variation in Cavite Chabacano phonology, particularly in the vowel system. The word list and story reading data are used in Chapter 5, along with previous phonological descriptions (German 1932, Ramos 1963) and dictionaries (Asociacion Chabacano 2008, Riego de Dios 1989), to provide an updated description of the phonology of Cavite Chabacano, including vowels, consonants, and prosody. The word list task and carrier phrase task are analyzed in Chapter 6 in order to focus on the vowel system in more detail, showing not only how the vowels pattern phonologically, but how they are realized phonetically in different contexts and how they vary according to social as well as linguistic factors. Finally, the map task in Chapter 7 is used to gain some insight into how the phonological variation described in this study, especially in the vowel system, is perceived by the speakers and how this variation is related to the language ideologies that they have about the relationships between Chabacano, the superstrate Spanish, and the substrate/adstrate Tagalog.

Chapter 5: Cavite Chabacano Phonology

5.1 Introduction

This chapter describes modern Cavite Chabacano phonology at the segmental and prosodic levels. Because German (1932) and Ramos (1963) have already done detailed phonological descriptions of the language, the description in this chapter is not entirely from scratch. The description presented here is meant to provide more detail about points that German (1932) and Ramos (1963) disagreed about or were unclear on, and to provide an update to describe how Cavite Chabacano is now spoken in the present day, and to see how the phonology of the language may have changed over time. I also address issues of substrate and superstrate influence and compare this description of Cavite Chabacano to phonological descriptions of other Chabacano varieties (Ing 1967, Riego de Dios 1989, Sippola 2010).

The observations and generalizations presented here are based on the data I collected while in the field, especially the word list task and story reading and retelling task. These two tasks are described in Chapter 4. The field data is also supplemented by data from dictionaries (Riego de Dios 1989, Escalante 2005, Asociacion Chabacano 2008). Dialectal variation is included in this phonological description. This chapter does

not include quantitative phonetic analysis, but parts of the phonological description are illustrated by spectrograms to make relevant points about the phonetic realization of some of the sounds of Cavite Chabacano.

Section 5.2 provides more detail about the sources of data used to produce this description, and 5.3 is an introduction to origins of the Cavite Chabacano lexicon. Sections 5.4-5.6 describe the vowel inventory, consonant inventory, and prosodic structure of Cavite Chabacano, respectively. 5.4 also sets the foundation for the more detailed acoustic analysis of the vowel system in Chapter 6. In section 5.7, I discuss the findings of the phonological description in light of what has been claimed about Cavite Chabacano in previous work, what kind of variation there is in the phonological system, how the phonology of Cavite Chabacano compares to other Chabacano varieties, and issues of substrate and superstrate influence. Section 5.8 summarizes the conclusions of the chapter.

5.2 Data sources and analysis

Besides the elicitation tasks described in Chapter 4, this phonological description also relies on data and observations from the previous analyses by German (1932) and Ramos (1963), which were summarized in Chapter 2.5.1, as well as Chabacano dictionaries. In the phonological examples presented in sections 5.4-5.6, data from these sources are cited when necessary, but unless otherwise noted, they come from my field data. Comparisons to substrate and superstrate phonology are made by consulting sources

such as Hualde (2005) and Penny (2000) for Spanish and Schachter & Otones (1972) and Yap (1970) for Tagalog, among others.

The main Chabacano dictionary consulted during this study was the *Diccionario Chabacano del Ciudad de Cavite* (Asociacion Chabacano 2008), a trilingual Cavite Chabacano-English-Tagalog dictionary published by a local language preservation organization. The editorial board for this project included Librada Llamado, a native speaker linguist who wrote a master's thesis on Cavite Chabacano syntax in 1969, and there were several other contributors from different parts of Cavite City. I occasionally also made reference to Riego de Dios's (1989) *A composite dictionary of Philippine Creole Spanish* and Escalante's (2005) *Chabacano ... for everyone*. Riego de Dios is a native Cotabato Chabacano speaker and linguist, and her dictionary includes comparisons of Cotabato, Zamboanga, Ternate, and Cavite Chabacano lexical items for each entry. Escalante is a retired educator and native Cavite Chabacano speaker who has recently written a series of Chabacano textbooks. His dictionary is also a useful source and contains transcriptions, although they tend to reflect his own pronunciation as a resident of the San Roque district of Cavite City. He tends to transcribe word-final unstressed /u/ and /i/ where the *Diccionario Chabacano* transcribes /o/ and /e/. For example, Escalante transcribes *malo* 'bad' as [MA-lu] and *parque* 'park' as [PAR-ki], but the *Diccionario Chabacano* transcribes those words as /MAlo/ and /PARke/.³⁴

³⁴ These sources do not use standard IPA. The capital letters represent stress. Escalante syllabified each word in his dictionary and denotes transcriptions with square brackets, but the *Diccionario Chabacano* does not include syllabification and denotes transcriptions with forward slashes. From this point forward, while citing these sources, I convert their transcriptions to IPA.

German (1932) and Ramos (1963) each contain detailed phonological examples, and German's thesis is quite useful for its historical comparisons of Cavite Chabacano phonology to that of archaic Mexican Spanish and other regional Spanish varieties. However, they were somewhat limited in their methodology because there was little phonetic detail to support their phonological descriptions (which is to be expected, given the time periods of these studies). The present study expands upon these previous phonological descriptions by using phonetic analysis to support phonological description, making comparisons to both the superstrate and substrate phonology, and taking into account dialectal variation. These advances are made possible by relying on a large data set including many speakers of different social backgrounds.

While the dictionaries and previous phonological descriptions agree on most counts, there is disagreement about how many phonemes are in Cavite Chabacano and other Chabacano varieties, as described in Chapter 2.5.2. For example, all sources agree that the Chabacano varieties have 5-vowel systems, but there is disagreement on whether they distinguish between the tap and trill of Spanish, and whether the sounds represented by <ll> and <ñ> should be categorized phonologically as the single segments /ʎ/ and /ɲ/ or as the consonant clusters /l/ + /j/ and /n/ + /j/. Even when there is agreement, as with the number of vowels, the descriptions of how particular phonemes pattern in different contexts are sometimes oversimplified because prosodic factors are often not taken into account or only vaguely described. In the phonological description presented here, I clarify some of these issues by providing detailed examples of minimal pairs showing contrast between phonemes, and show how the different phonemes pattern allophonically

according to preceding or following segment, stress, and position within the syllable, word, or phonological phrase.

It is uncontroversial that Cavite Chabacano has five vowels (German 1932, Miranda 1956, Ramos 1963), but when it comes to the mid vowels and the high vowels, it is no easy task to determine if a given word underlyingly has /e/ versus /i/ or /o/ versus /u/, especially in word-final position. This is why the transcription of certain words can differ between sources, as in the examples from Escalante's (2005) dictionary and the *Diccionario Chabacano* (Asociacion 2008). There are at least three reasons for this difficulty. First, there are certain Cavite Chabacano words, likely adapted during an early stage of contact, that seem to have fossilized Spanish /e/ and /o/ into /i/ and /u/ across dialects, so that the mid vowel raising is only a diachronic process and not a synchronic one that is still productive today. Second, both the San Roque and Caridad dialects of Cavite Chabacano raise the mid vowels in certain prosodic positions, but there are phonetic differences in how the two dialects do this, as Chapter 6 shows. Third, while there are no longer very many Caviteños who are fluent in Spanish, there are still varying levels of exposure, with a few participants in this study occasionally producing forms closer to Spanish than what the majority of the others produced.

These three problems are one reason that a large data set, with speakers from different parts of the city, was needed for this study. The underlying form of each word in the word list task was determined through comparison across speakers. For example, I had initially thought that the underlying form for the word for 'tomato' was /to'mates/ (< Sp. *tomate*), with San Roque speakers raising the /e/ in the last syllable to [i], but after

comparing data from both dialects I found that every single participant had produced [tomatis], with almost no variation.³⁵ The underlying form was then assumed to be /tomatis/. Similarly, verbs that have their origin in the Spanish *-er* infinitive form, e.g. *kumi* ‘to eat’ < Sp. *comer*, nearly always end in [i] regardless of dialect or age group, so /i/ is assumed to be the underlying vowel. Words like *gallo* ‘rooster’, on the other hand, were more variable in how they were pronounced, and it was clear from comparison across speakers that the final vowel was /o/, with some speakers tending to raise the vowel to varying degrees. A similar comparative approach was used to describe the consonants of Cavite Chabacano. For example, I initially observed in the field that /k/ seemed to be pronounced as [j] by a few speakers (a perception no doubt influenced by my L1 English), but upon examining the acoustic data and making comparisons across and within speakers, it turned out that /k/ realized as [j] was exceedingly rare. /k/ and /j/ were classified as distinct phonemes, and [j] was not considered a normal allophone of /k/.

5.3 Sources of the Chabacano lexicon

Cavite Chabacano has two main sources, Mexican Spanish and Tagalog, that contribute to its lexicon and phonological inventory. Historically there was also some

³⁵ There was only one partial exception. One of the eldest speakers, an 87-year-old San Roque man whose father spoke Spanish, initially produced [tomate]. Then he corrected himself to [tomatis], identifying the first response as Spanish and the second one as Chabacano (without any prompting from me).

influence from Hokkien,³⁶ and more recently, there has been influence from English. Mexican influence is evident through words such as *chonggo* ‘monkey’ (< Mex. Sp. *chango*) and *tiyangge* ‘market’ (< Mex. Sp. *tianguis*, originally from Nahuatl; Albalá 2003). Peninsular Spanish influence is also evident phonologically, as discussed in Chapter 2. Because of the nature of the contact situation, there are many Tagalog words that are also of Spanish origin. The Spanish loanwords in Tagalog sometimes match the phonology of the Spanish-derived form in Chabacano and sometimes do not.

In the word list task conducted during fieldwork, participants were shown 120 pictures targeting different lexical items, but because the responses were open-ended, 420 unique lexical items were elicited (see Chapters 4.5.1 and 6.2 for more details about this task, and Appendix B for the full list of words). Participants sometimes switched languages during elicitation, so 275 of the 420 words were coded as Chabacano words (of Spanish, Tagalog, or English origin) and 145 were coded as non-assimilated words from Tagalog, English, Spanish or some combination of those languages.

These words were classified into the following categories: CS (Chabacano < Spanish), CT (Chabacano < Tagalog), CST (Chabacano < Spanish and Tagalog), CET (Chabacano < English and Tagalog), CSE (Chabacano < Spanish and English), ET (English < Tagalog), TS (Tagalog < Spanish), S (Spanish), T (Tagalog), and E (English). The table also shows examples of words elicited in each category along with their transcriptions and origin in Spanish, Tagalog, or English. Words were classified as non-assimilated Tagalog, Spanish, or English words if they did not occur in any Chabacano

³⁶ The Hokkien influence in Chabacano and Tagalog is most evident in words related to food, e.g. *pancit* ‘noodle dish’ or *bihon* ‘rice noodles’ (Chan-Yap 1976).

dictionaries, if there were more commonly used counterparts in Chabacano, or if their phonological forms did not match those of other Chabacano words. Examples of words in each of these categories are shown in Table 3.

Category	Elicited word	Transcription	Origin
CS	<i>sebollas</i> ‘onion’	/se.'bo.ʎas/	Sp. <i>sebollas</i>
	<i>kasa</i> ‘house’	/'ka.sa/	Sp. <i>casa</i>
	<i>páharo</i> ‘bird’	/'pa.ha.ro/	Sp. <i>páharo</i>
CT	<i>daing</i> ‘dried fish’	/'da.ʔiŋ/	Tag. <i>daing</i>
	<i>gabi</i> ‘taro root’	/'ga.bi/	Tag. <i>gabi</i>
	<i>kidlat</i> ‘lightning’	/kid.'lat/	Tag. <i>kidlat</i>
CST	<i>mani</i> ‘peanut’	/ma.'iʔ/	Sp. <i>maní</i>
	<i>krus</i> ‘cross’	/'krus/	Sp. <i>cruz</i>
	<i>asul</i> ‘blue’	/a.'sul/	Sp. <i>azul</i>
CET	<i>pulis</i> ‘police’	/pu.'lis/	Eng. <i>police</i>
	<i>kerots</i> ‘carrot’	/'ke.rots/	Eng. <i>carrots</i>
CSE	<i>pluta</i> ‘flute’	/'plu.ta/	Sp. <i>flauta</i> , Eng. <i>flute</i>
	<i>sentinel</i> ‘sentinel’	/sen.ti.'nel/	Sp. <i>centinela</i> , Eng. <i>sentinel</i>
ET	<i>titser</i> ‘teacher’	/'ti.tʃer/	Eng. <i>teacher</i>
TS	<i>kamatis</i> ‘tomato’	/ka.'ma.tis/	Sp. <i>tomate</i>
	<i>labanos</i> ‘radish’	/la.ba.'nos/	Sp. <i>rábanos</i>
	<i>sibuyas</i> ‘onion’	/si.'bu.jas/	Sp. <i>sebollas</i>
S	<i>relámpago</i> ‘lightning’	/re.'lam.pa.go/	
	<i>árbol</i> ‘tree’	/'ar.bol/	
	<i>gris</i> ‘gray’	/'gris/	
T	<i>bawang</i> ‘garlic’	/'ba.waŋ/	
	<i>ibon</i> ‘bird’	/'i.bon/	
	<i>dilaw</i> ‘yellow’	/di.'law/	
E	<i>nose</i>	/'nos/	
	<i>peas</i>	/'pis/	
	<i>witch</i>	/'wiʧ/	

Table 3. Origins of the lexical items elicited during the word list task

One example of a CS word is *páharo* ‘bird’ (< Sp. *páharo*). This word is shared between Chabacano and Spanish, but not Tagalog, which has the native word *ibon* ‘bird’. The CT category is made up of lexical items from Tagalog that are consistently used instead of Spanish equivalents or when no Spanish equivalent exists. For example, there is no Spanish word for ‘taro root’, so Chabacano uses the word *gabi* ‘taro root’ from Tagalog. Tagalog itself also has a large number of loanwords from Spanish, so the CST category includes the vocabulary shared between all three languages. For example, *krus* ‘cross’ (< Sp. *cruz*) is a Spanish loanword in Tagalog and is also a Chabacano word. The CST category only includes Tagalog loanwords from Spanish that have the same phonological form as the Chabacano counterpart. For example, *krus* ‘cross’ has the same form in Spanish, Tagalog, and Chabacano, but for ‘onion’, the Tagalog form *sibuyas* differs from the Chabacano form *sebollas* in two ways, as shown in Table 3. The first vowel in Tagalog *sibuyas* is /i/ instead of the /e/ of Chabacano, and the different spellings with <y> and <ll> reflect a phonological difference of /j/ in Tagalog and /k/ in Chabacano. The *sebollas* form is closer to that of the prestige variety of Spanish that was present in Cavite in the late 1800s than to the archaic Mexican Spanish variety that was present during earlier stages of contact (Lipski 1986), from which *sibuyas* is derived.

CET and CSE are the more rare categories of nativized English loanwords that also appear in Tagalog and Spanish. Only two words were elicited in the CET category, *pulis* < Eng. *police* and *kerots* < Eng. *carrots*. Spanish *policía* ‘police’ and *zanahoria* ‘carrot’ are not used in modern Tagalog or Chabacano. The CSE category also includes only two words, *pluta* (occasionally *fluta*, with an [f]) and *sentinel* ‘sentinel, guard’.

These words are categorized as blends of Spanish and English forms. *Pluta* appears to be a blend of the Spanish form *flauta* /flawta/ and the English form *flute* /flut/, while *sentinel* /sen.ti.'nel/ is based on the English word *sentinel* (instead of Spanish *centinela*) but follows the Spanish pattern of stressing final closed syllables.

Other English (E) words, such as *nose* (occasionally used instead of Chabacano *naris* < Sp. *nariz* ‘nose’), were coded separately from Chabacano responses. Words of Tagalog origin fell into three categories. Words classified in the CT category include Tagalog-origin words that have no Spanish equivalent (e.g. *daing* ‘dried fish’), or that were listed as Chabacano words in the *Diccionario Chabacano* (Asociacion Chabacano 2008). Other Tagalog-origin words (T) were coded separately from Chabacano responses if they were clear substitutions for the commonly used Chabacano/Spanish equivalents. For example, some participants produced Tagalog *singsing* ‘ring’ and corrected themselves to Chabacano/Spanish *anillo*. Tagalog words also sometimes distinguish themselves from Chabacano when they are also of Spanish origin, but have phonological differences (unlike the CST category words). This is the TS category in Table 3. For example, Tagalog has *sibuyas* /sibujas/ ‘onion’ from Spanish *cebolla*, but in Chabacano it is *sebollas* /seboʎas/.

This review of the sources of the Cavite Chabacano lexicon shows some examples of the contributions the different input languages made to the creole in terms of phonological features. For example, Tagalog-origin words maintain the glottal stop of Tagalog (e.g. *daing* ['da.ʔiŋ]), and the glottal stop is also inserted into some Spanish-origin words (e.g. *mani* [ma.'niʔ]). Cavite Chabacano has /ʎ/ as a distinctive phoneme

from /j/ due to its close contact with north-central Peninsular Spanish during the 1800s (Lipski 1986), whereas Tagalog and Ternate Chabacano (Sippola 2011) do not.

In the following sections, detailed descriptions of the vowel and consonant inventories and the prosody of Cavite Chabacano are presented, with reference to variation in the language and the contributions of the superstrate and substrate.

5.4 The vowel system

5.4.1 *Monophthongs*

Cavite Chabacano has five monophthongal vowels (German 1932, Ramos 1932), although as Chapter 6 shows, the high and mid vowels are not always phonetically distinct in unstressed position. Table 4 shows the five phonemes, which are contrastive in stressed contexts in both the Caridad and San Roque dialects. Spanish and Tagalog both also have 5-vowel systems, although Old Tagalog had a 3-vowel system. Tagalog gained /e/ and /o/ through Spanish contact and partly also through internal innovation (Reid 1973).

	Front	Central	Back
High	i		u
Mid	e		o
Low		a	

Table 4. Cavite Chabacano monophthongal vowels

The following examples in (1), partially adapted from Ramos (1963:66), show minimal pairs contrasting between the five vowels in stressed position.

(1)	/i/, /e/	/'mi.sa/ 'Mass'	/'me.sa/ 'table'
	/i/, /a/	/'si.pa/ 'kick'	/'sa.pa/ 'swamp'
	/i/, /o/	/'ri.pa/ 'lottery'	/'ro.pa/ 'clothes'
	/i/, /u/	/'mi.na/ 'mine'	/'mu.na/ 'first'
	/e/, /a/	/'be.so/ 'kiss'	/'ba.so/ 'glass'
	/e/, /o/	/'pe.so/ 'weight'	/'po.so/ 'well'
	/e/, /u/	/'me.sa/ 'table'	/'mu.sa/ 'muse'
	/a/, /o/	/'ba.la/ 'bullet'	/'bo.la/ 'ball'
	/a/, /u/	/'ma.sa/ 'dough'	/'mu.sa/ 'muse'
	/o/, /u/	/'ku.ra/ 'priest'	/'ko.ra/ (a girl's name)

There is acoustic overlap between the realizations of the high vowels and the mid vowels when they are unstressed, as in Tagalog (Schachter & Otones 1972:7-11). The allophones of /i/ are [i] and [ɪ], with the latter occurring in unstressed position. The front mid vowel /e/ may be realized as either [e] or [ɛ], whether in stressed or unstressed position, and it may also be raised to [ɪ] when unstressed. (2) shows examples of the different realizations of the front vowels, including overlap between them.

(2) Front vowels:

a. Stressed

/i/ → [i] /'misa/ → ['misa]

/e/ → [e] ~ [ɛ] /'mesa/ → ['mesa] ~ ['mɛsa]

b. Unstressed

/i/ → [ɪ] /pɪs'kaw/ → [pɪs'kaw] 'fish'

/e/ → [ɛ] ~ [ɪ] /ɛs'treɾa/ → [ɪs'treɾa] ~ [ɛs'treɾa] 'star'

The back vowels pattern similarly. The high back vowel /u/ is usually realized as [u] in stressed position and [ʊ] in unstressed position. As for /o/, it may be realized as either [o] or [ɔ] in any position, and in unstressed position it may also be realized as [ʊ] or [u]. The back vowels are particularly centralized when unstressed, more so than the front vowels. (3) shows the different realizations of the back vowels, including their overlap with each other.

(3) Back vowels:

a. Stressed

/u/ → [u] /'lus/ → ['lus] 'light'

/o/ → [o] ~ [ɔ] /re'lo / → [re'lo] ~ [rɛ'lo] 'clock'

b. Unstressed

/u/ → [ʊ] /sintu'ron/ → [sintʊ'ron] 'belt'

/o/ → [o] ~ [ʊ] ~ [u] /ro'diʎas/ → [ro'diʎas] ~ [rʊ'diʎas] ~ [ru'diʎas] 'knee'

The mid vowels /e/ and /o/ tend to overlap with the high vowels /i/ and /u/ in both the San Roque and Caridad dialects when unstressed. Some of this overlap can be attributed to the raising of the mid vowels, which occurs to varying degrees in different prosodic contexts. San Roque speakers tend to have more mid vowel raising in phrase-final position than Caridad speakers do, which is a pattern also described by German (1932) and Miranda (1956). It can also occur in Caridad, but usually to a lesser degree. Mid vowel raising in phrase-final position is also more common for /e/ than for /o/, which tends to raise more in nonfinal position. (4) shows some examples of this unstressed, phrase-final mid-vowel raising.

(4) Unstressed phrase-final mid vowel raising:

/e/ → [i] /'ele/ → ['eli] '3SG'

/'base/ → ['basi] 'base'

/o/ → [u] /'jelo/ → ['jelu] 'ice'

/'ahos/ → ['ahus] 'garlic'

In certain words of Spanish origin, what would be the mid vowels /e/ and /o/ in Spanish are consistently realized as [i] or [u] across dialects, e.g. *peini* 'comb' (< Sp.

peine), *tomatis* ‘tomato’ (< Sp. *tomate*), or *kurri* ‘run’ (< Sp. *correr*). In such cases, I consider the underlying Chabacano phoneme to be /i/ or /u/ rather than /e/ or /o/. These are cases of mid vowel raising only in the historical sense, and not examples of the modern synchronic process of mid vowel raising.

The low vowel /a/ can also reduce to [ə] in unstressed position, as shown in (5).

- (5) /a/ → [a] ~ [ə] /'gwardʒa/ → ['gwardʒa] ~ ['gwardʒə] ‘guard’
/ta'pon/ → [ta'pon] ~ [tə'pon] ‘cork’

Vowel reduction sometimes results in deletion and seems to occur somewhat more often in the Caridad district compared to San Roque. For example, Caridad participants commonly produce [ˈpaɾo] or [ˈpaɾo] for /ˈpaɦaro/ ‘bird’, whereas those from San Roque consistently retain all three syllables in that word. However, unstressed vowel deletion does also occur sometimes in San Roque, e.g. /tʃokoˈlate/ → [tʃokˈlate] ‘chocolate’. German (1932:32) also notes that historically, Cavite Chabacano deleted the initial vowel of many Spanish words, e.g. *cabá* ‘to finish’ (< Sp. *acabar*), *namorá* ‘to fall in love’ (< Sp. *enamorar*).

The vowels of Cavite Chabacano words tend to match those in the original Spanish words very well, apart from the examples involving mid vowel raising. However, German (1932:11-13) lists some examples of words with vowels differing from their Spanish counterparts. These examples are reproduced in (6). I have kept the Chabacano spelling as in the original, but I have added accent marks to indicate stress.

(6)	Spanish	Cavite Chabacano	Gloss
Unstressed /a/ > /e/	<i>astilla</i>	<i>estillas</i>	‘splinter’
	<i>trasudór</i>	<i>tresudóres</i>	‘slight sweat’
Unstressed /a/ > /i/	<i>anzuelo</i>	<i>inchuélo</i>	‘fish hook, bait’
	<i>antójo</i>	<i>intójo</i>	‘whim’
Unstressed /a/ > /o/	<i>siemprevíva</i>	<i>siemprevívo</i>	‘houseleek plant’
	<i>alpargáta</i>	<i>paragátos</i>	‘espadrille sandal’
Unstressed /e/ > /a/	<i>verráco</i>	<i>barráco</i>	‘boar’
	<i>persiána</i>	<i>palsiána</i>	‘blinds’
Unstressed /e/ > /o/	<i>retázo</i>	<i>rotázo</i>	‘remnant’
Unstressed /i/ > /a/	<i>deshilvanár</i>	<i>desalbabaná</i>	‘to untack’
Unstressed /o/ > /i, e/	<i>ostión</i>	<i>istiónes, estiónes</i>	‘oyster’
Stressed /i/ > /e/	<i>buril</i>	<i>burél</i>	‘chisel’

German (1932:11) notes that the unstressed /a/ > /o/ examples are likely the result of analogy to Spanish masculine forms, which usually end in *-o*. No explanation is offered for the other changes in the Cavite Chabacano forms. However, the examples in (6) are rare, and almost all occur in unstressed position. Unstressed vowels seem to be more susceptible to misperception than stressed vowels (Crosswhite 2001:25, 27; Bond 2005:292-293). These vowel changes from the Spanish forms in unstressed positions are

perhaps the result of L2 errors at an early stage of contact, based on the Tagalog tendency to reduce unstressed vowels and the smaller number of substrate vowel categories.

German (1932:11-14) also lists some examples of /e/ and /o/ being “raised” in words of Tagalog origin to /i/ and /u/, which are shown in (7):

(7)	Tagalog	Cavite Chabacano	Gloss
	<i>ube</i>	<i>ubi</i>	‘purple yam’
	<i>gabe</i>	<i>gabi</i>	‘taro root’
	<i>payong</i>	<i>payung</i>	‘umbrella’
	<i>bansot</i>	<i>bansut</i>	‘stunted’

However, as discussed in Chapter 2, this difference between the Tagalog and Cavite Chabacano forms is not because of mid vowel raising, but rather a retention of the Old Tagalog 3-vowel system. Similar forms are found in conservative Southern Tagalog dialects in Marinduque (Soberano 1980) and Tayabas (Manuel 1971).

Cavite Chabacano vowels are generally lengthened in phrase-final position, regardless of stress, especially in CV syllables (see Chapter 6 for phonetic evidence). Vowels in CVC phrase-final syllables are not always quite as long in duration as those in CV phrase-final syllables, but are often still longer than vowels in nonfinal position. Phrase-final vowels in CV syllables usually end in breathiness as they are lengthened, as is also the tendency in Tagalog. An example of this phrase-final breathiness is shown in Figure 1. Vowels are also sometimes slightly breathy before or after /s/, which is a

common cross-linguistic tendency (Turk et al. 2006:10-11), but they are not devoiced as in Andean Spanish (Delforge 2008).

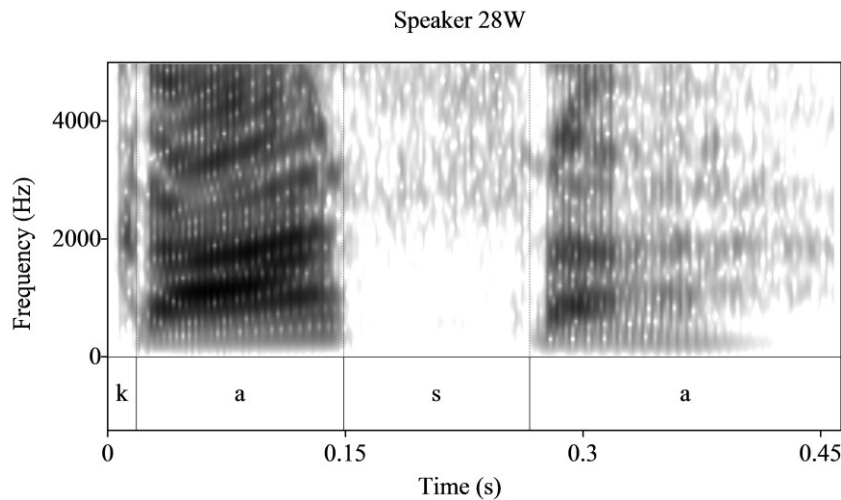


Figure 1. Vowel breathiness in phrase-final position in the word *kasá* ‘to marry’.

5.4.2 *Vowel and glide sequences*

Whether or not Cavite Chabacano has true diphthongs is debatable. The sequences /je/, /ja/, /jo/, /ju/, /wi/, /we/, and /wa/ could be considered rising diphthongs, and the sequences /ej/, /aj/, /oj/, /uj/, /iw/, /ew/, /aw/ could be considered falling diphthongs. However, in the literature on Austronesian historical phonology, there is argument about whether the glides in such sequences should be considered vowels or consonants (Blust 1998; Clynes 1997, 1999). In the substrate Tagalog, there is phonological evidence that the glides pattern as consonants. For example, the form of the Tagalog linker particle *na/-ng* depends on whether it follows a consonant or a vowel,

with *na* following consonants and *-ng* following vowels. After glides, the particle is *na*, e.g. *matakaw na lalaki* ‘greedy man’ or *patay na lalaki* ‘dead man’. The evidence for their status in Chabacano is not as clear. For now, I follow Ramos (1963), Ing, (1968), and Sippola (2011) in classifying the glides in these sequences as consonants in the different Chabacano varieties. For example, in /'gwapo/ ‘handsome’, the glide /w/ is analyzed phonologically as part of a consonant cluster /gw/, with /a/ considered a monophthong.

Examples of Glide + Vowel and Vowel + Glide sequences, drawn from a combination of the *Diccionario Chabacano* (Asociacion Chabacano 2008) and the word list task, are shown in (8) and (9). Further examples of the distribution of the glides in simple onsets and codas follow in 5.5.7, and their occurrence in consonant clusters is discussed in 5.6.1.

(8) Glide + Vowel sequences

/je/ /pi'mjento/ ‘pepper’

/'sjelo/ ‘sky’

/ja/ /par'masja/ ‘pharmacy’

/'gwardja/ ‘guard’

/jo/ /ne'gosjo/ ‘business’

/asosja'sjon/ ‘association’

/ju/ /sju'dad/ ‘city’

/'bjuda/ ‘widow’

/wi/ /kwi'daw/ 'care, caution'

/'rwido/ 'noise'

/we/ /'pwego/ 'fire'

/'dwende/ 'dwarf'

/wa/ /agwa'sero/ 'rain'

/'gwapo/ 'handsome'

(9) Vowel + Glide sequences

/ej/ /'rej/ 'king'

/'pejni/ 'comb'

/aj/ /paj'na/ 'to comb'

/gu'laj/ 'vegetables'

/oj/ /bojko'tejo/ 'boycott'

/uj/ /ba'duj/ 'dowdy'

/ka'suj/ 'cashew'

/iw/ /'sisiw/ 'chick'

/pak'siw/ 'stew made with vinegar'

/ew/ /parma'sewtika/ 'pharmacy'

/aw/ /sol'daw/ 'soldier'

/'plawta/ 'flute'

The vowel and glide sequences have their origins in both Spanish and Tagalog. The sequences /je, ja, jo, ju, wi, we, wa, wo/ and /ej, aj, oj, ew, aw, ow/ occur in Spanish (Martínez-Celdrán et al. 2003), and the sequences /iw, aw, ej, uj, oj, aj/ occur in Tagalog (Schachter & Otones 1972:14). Cavite Chabacano does not seem to have /wo/ from Spanish. Sippola (2011:41) gives one example of /wo/ in Ternate Chabacano, /an'tigwo/ ‘old, antique’, but in Cavite Chabacano this word is /an'tigo/, with no /w/. Many instances of /aw/ are derived from the Spanish *-ado* past participle ending, which is often realized with deletion of the /d/ in many Spanish dialects. Cavite Chabacano does not delete the /d/ in the *-ido* past participle ending, unlike Ternate Chabacano (Sippola 2011:41). For example, *conocido* ‘known’ is *konosido* in Cavite City and *konosiw* in Ternate. The sequence /iw/ occurs only in words of Tagalog origin, such as *sisiw* ‘chick’ or *paksiw* ‘stew made with vinegar’.

There is some allophonic variation involving /aj/ that can be attributed to either Tagalog or Spanish influence. In Tagalog, /aj/ alternates between [aj] ~ [ej] ~ [e] (Schachter & Otones 1972:14), and [aj] ~ [ej] alternation is found in some nonstandard Spanish dialects (Penny 2000:218). This alternation is reflected historically in some Cavite Chabacano forms. For example, there are two different words for ‘comb’, [‘pejni] and [paj'neta], and the verb form is [paj'na] (< Sp. *peinar* /pej'nar/ ‘to comb’). Ramos (1963:73) lists the word for ‘shave’ as /paj'ta/ rather than Spanish *feitara* /fej'tar/, and ‘air’ as /'ejri/ rather than Spanish *aire* /'ajre/. There appears to be some variation, as the *Diccionario Chabacano* (Asociacion Chabacano 2008) lists ‘air’ as *aire* /'ajre/. Tagalog

has a similar alternation involving /aw/ ([aw] ~ [o]), but this pattern does not seem to be reflected in Cavite Chabacano.

5.4.3 Other vocalic sequences

In words of Spanish origin with vowel hiatus, when the first vowel is /a/ (e.g. *maíz* ‘corn’), Cavite Chabacano has a glottal stop between the vowels, as shown in (10) (see Sippola 2011:42-43 for similar examples in Ternate Chabacano). This glottal stop is also inserted into many Spanish loanwords in Tagalog.

(10) Spanish	Chabacano
<i>maíz</i> ‘corn’	[ma'ʔis]
<i>maestra</i> ‘teacher’	[ma'ʔestra] (sometimes reduced to ['majstra] or ['mestra])
<i>seis</i> ‘six’	[sa'ʔis] or [sejs]

There is some variation, for example, between [sa'ʔis] and the more standard Spanish-like [sejs] ‘six’. In the word list task, *maestra* ‘teacher’ had three commonly occurring forms, as listed in (10). The variation is accounted for by the fact that glottal stops are often elided in fast or casual speech, and [aj] alternates with [e]. How vowel hiatus is realized varies considerably in Spanish as well, with some varieties maintaining hiatus and others tending to reanalyze them as a diphthong in one syllable, e.g. *teatro* ‘theater’ /te.'a.tro/ → ['tja.tro] or *maíz* ‘corn’ /ma.'is/ → ['mais] (Penny 2000:134).

In native Tagalog words, the glottal stop occurs intervocalically in words such as *daing* ['daʔiŋ] 'dried fish' and *leeg* [le'ʔeg] 'neck'. Tagalog also has glottal stops inserted into Spanish loanwords such as *mais* 'corn'. In both Cavite Chabacano and Tagalog, the glottal stop only seems to be inserted into Spanish words after /a/.³⁷ For example, Cavite Chabacano *paseo* 'walk' is [pa'sejo], with the front glide [j] following the front vowel [e], and never [pa'seʔo]. Similarly, *oeste* 'west' is [o'weste], with the back glide [w] following the back vowel [o], and not [o'ʔeste].

Adjacent vowels across word boundaries are often elided or become glides, similar to Spanish (Hualde 2005:89-91), especially in casual speech. However, in more formal or careful speech, hiatus is often maintained, and vowels may even be separated by a glottal stop. Further acoustic study of casual or spontaneous speech in Cavite Chabacano is needed, but a few examples of vowel elision and gliding are shown in (11). They are drawn from the story reading and retelling tasks.

(11) a. Elision

/a/ + /a/	/ta a'ki/ 'LOC here'	[ta'ki]
/a/ + /e/	/ja enkun'tra/ 'PAST found'	[jankun'tra]
/i/ + /e/	/rispun'di el/ 'answer the'	[rispun'dil]
/e/ + /a/	/'tjene a'ki/ 'have there'	['tjene'ki]
/e/ + /u/	/'tjene un/ 'have a'	['tjenun]

³⁷ Glottal stop insertion in Tagalog loanwords from Spanish may also be similarly restricted, although further study is needed to confirm exactly what the patterns are. For example, Goulet (1971:21) shows examples of /'i.a/ and /'i.o/ in Spanish words being assimilated into Tagalog as diphthongs, e.g. bisyllabic Sp. *tío* 'uncle' > monosyllabic Tag. /'tjo/ (not /'ti.ʔo/), with /o/ as the nucleus.

/o/ + /e/ /jo empe'sa/ 'I begin' [jom'pesa]

b. Gliding

/a/ + /o/ /eska'pa otra bes/ 'escape again' [eska'pawtra bes]

/a/ + /i/ /'trejnta i 'tres/ 'thirty-three' ['trejntaj tres]

/o/ + /e/ /'komo el/ 'like the' ['kom.wel]

/o/ + /a/ /no 'aj/ 'NEG EXIST' ['nwaj]

5.5 Consonant inventory

Cavite Chabacano has 20 consonant phonemes, as shown in Table 5. Asterisks denote consonants of Tagalog origin, and crosses denote consonants of Spanish origin. All other consonants are found in both Spanish and Tagalog.

	Bilabial	Dental/ Alveolar	Post- alveolar	Palatal	Velar	Glottal
Stop	p b	t d			k g	ʔ*
Nasal	m	n		ɲ ⁺	ŋ*	
Trill		r ⁺				
Tap		r				
Fricative		s				h
Affricate			tʃ			
Approximant				j	w	
Lateral approx.		l		ʎ ⁺		

Table 5. Cavite Chabacano consonant phonemes (* indicates Tagalog origin and ⁺ indicates Spanish origin; all other consonants occur in both Tagalog and Spanish)

The inventory of Cavite Chabacano is larger than those of Spanish and Tagalog since it combines phonemes from both systems. Spanish has 16-18 consonants, depending on the dialect (Hualde 2005:53); other than north-central Peninsular Spanish, most dialects do not have /θ/ or /ʎ/ as a phoneme. Cavite Chabacano has /ʎ/, but not /θ/. Tagalog also has 16-18 consonants, depending on whether /f/ and /tʃ/, which most frequently occur in loanwords, are counted as phonemes (Schachter & Otones 1972:18). The distribution of the different consonant phonemes in Cavite Chabacano is discussed in the following subsections.

5.5.1 Stops

Cavite Chabacano has seven stops: /p/, /b/, /t/, /d/, /k/, /g/, and /ʎ/. (12) shows examples of the stops in onset position, word-initially and word-medially. (13) shows examples of them in coda position, word-finally and word-medially. These examples come from a combination of the *Diccionario Chabacano* (Asociacion Chabacano 2008) and the word list task.

(12) Onset, word-initial	Onset, word-medial
/p/ /'pa.so/ 'step'	/'tro.pa/ 'group of friends'
/'plo.res/ 'flowers'	/'ta.paʎ/ 'dried beef'
/b/ /'ba.so/ 'glass'	/se.'bo.ʎas/ 'onion'
/'bru.ha/ 'witch'	/ha.'bon/ 'soap'
/t/ /'tos/ 'cough'	/'plu.ta/ 'flute'

	/ta.'kon/ 'heel'		/'swer.te/ 'luck'
/d/	/'dos/ 'two'		/mje.'do/ 'fear'
	/'dul.se/ 'sweet'		/pwe.'de/ 'can, able'
/k/	/'ka.sa/ 'house'		/'ri.ko/ 'rich'
	/ka.'lan/ 'stove'		/tʃi.'ki.to/ 'small'
/g/	/'ga.sa/ 'gauze'		/pa.'ga/ 'to pay'
	/'ga.bi/ 'taro root'		/a.'gwe.lo/ 'grandfather'
/ʔ/			/ma.'ʔis/ 'corn'
			/'da.ʔinj/ 'dried fish'

(13) Coda, word-final

/p/	/sip.'sip/ 'absorb'
	/'aw.to.grap/ 'autograph'
/b/	/'klab/ 'club'
/t/	/kid.'lat/ 'lightning'
	/pu.'li.kat/ 'cramp'
/d/	/si.'nu.lid/ 'thread'
	/sju.'dad/ 'city'
/k/	/'bu.lak/ 'cotton'
	/pa.lak.'pak/ 'applause'
/g/	/tap.si.'log/ 'dried beef, rice, and egg'

Coda, word-medial

	/des.krip.'sʃon/ 'description'
	/'kap.su.la/ 'capsule'
	/sub.ma.'ri.no/ 'submarine'
	/ab.nor.'mal/ 'abnormal'
	/port.'po.li.o/ 'portfolio'
	/'rit.mo/ 'rhythm'
	/ad.mi.'ra/ 'to admire'
	/ad.mi.'sʃon/ 'admission'
	/a.trak.'ti.bo/ 'attractive'
	/dok.'tor/ 'doctor'
	/'dag.ta/ 'sap'

/dwag/ ‘coward’

/ig.no.'ran.te/ ‘ignorant’

/ʔ/ /'pa.reʔ/ ‘priest’

/ku.'tʃa.raʔ/ ‘spoon’

The stops in words of different origin follow the phonotactic patterns that they do in their source languages. In Spanish, stops can occur in coda position word-internally (often neutralized with respect to voicing), but not word-finally, except for /d/ (Hualde 2005:146-147). In Tagalog, all stops occur in onset or coda word-medially and word-finally, except for the glottal stop, which does not occur in word-initial onsets or word-medial codas (Yap 1970). These patterns are seen in Cavite Chabacano in (13). /d/ is the only stop that occurs in coda word-finally in words of Spanish origin (e.g. /sju.'dad/ ‘city’), and word-final stops occur in words of Tagalog origin like /sip.'sip/ ‘absorb’, /kid.'lat/ ‘lightning’, /'bu.lak/ ‘cotton’, and /tap.si.'log/ ‘dried beef, rice, and egg’, or in English loanwords like /'klab/ ‘club’ and /'aw.to.grap/ ‘autograph’ (Asociacion Chabacano 2008). Each of the stops except for the glottal occurs in coda position word-medially, as in the /k/ in /dok.'tor/.

German (1932) mentions that Cavite Chabacano tends to devoice final /b/, /d/, and /g/ in Tagalog words (e.g. *tayakat* ‘stilt’ < Tag. *tayakad*). The participants of this study do not seem to have final stop devoicing, but in the perceptual dialectology task, a few of them gave examples of other people using those pronunciations (see Chapter 7). Based on the recordings collected in the field, Cavite Chabacano stops have allophones similar to those of Tagalog (Schachter & Otones 1972:18-20). They are not aspirated and are

unreleased in consonant clusters and in final position. Unlike in Spanish, the voiced stops do not tend to undergo approximantization. For example, /b/, /d/, and /g/ are realized as stops in [ha'bon] ‘soap’, [ˈpwede] ‘able’, and [pa'ga] ‘pay’, which is characteristic of the substrate Tagalog, as opposed to the Spanish [ha'βon], [ˈpweðe], and [pa'ɣar]. However, also as in Tagalog (Schachter & Otones 1972:19), /k/ is often realized as [kˣ] or [x]. Figure 2 shows an example of /k/ → [x] intervocalically, but [x] can also occur initially.

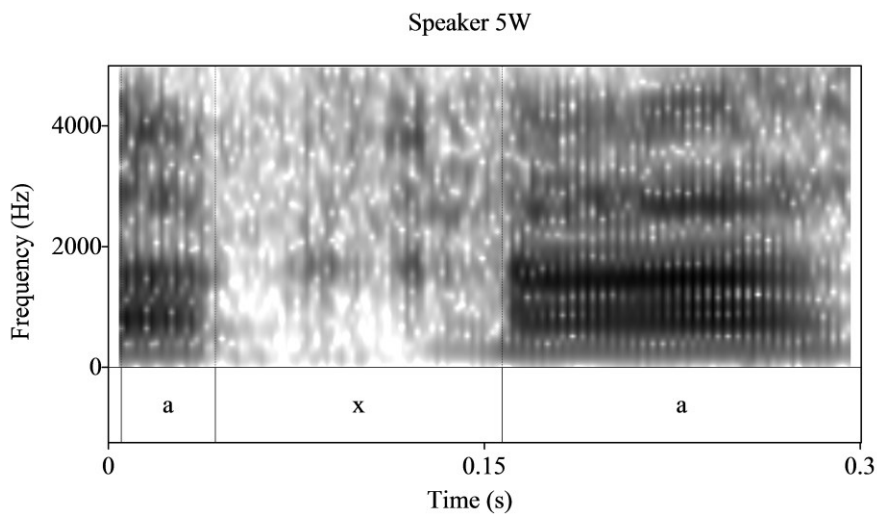


Figure 2. /k/ realized as [x] intervocalically in the phrase *Habla kasa* ‘Say house’.

The stops /d/ and /t/ are palatalized before /j/. This palatalization is a process that affects coronal obstruents more generally. Examples of /d/ and /t/ realized as [dʒ] and [tʃ] are shown in (14) and (15), and examples of /s/ palatalization are shown in Section 5.5.5.

- (14) /d/ /'djos/ → ['dʒos] 'God'
 /'gwar.dja/ → ['gwardʒa] 'guard'
- (15) /t/ /'tjene/ → ['tʃene] 'have'
 /'tjera/ → ['tʃera] 'land'

This pattern of coronal obstruent palatalization is also found in Tagalog (Llamzon 1966:32-33) and other Philippine languages. It occurs also in Zamboanga Chabacano (Ing 1968) and Ternate Chabacano, and the latter has additional palatalization of /k/ before /j/, e.g. /'kjere/ → [tʃere] 'want' (Sippola 2011:49). However, this process does not apply to /k/ in Cavite Chabacano. The process of coronal obstruent palatalization seems to be a rather recent development in Philippine languages. It is not well described in studies on Tagalog phonology other than Llamzon (1966). For example, Schachter & Otones (1972) describe the palatalization of /s/ before /j/, but not /d/ or /t/, and the pattern is not mentioned in earlier descriptive grammars of Tagalog. Sippola (2011) and Ing (1968) both describe it as being more common with younger Chabacano speakers than older Chabacano speakers. However, in Cavite Chabacano it is common across all age groups. In the word list task, non-palatalized pronunciations of /d/, /t/, or /s/ before /j/ were extremely rare.

Cavite Chabacano does not generally distinguish between /p/ and /f/, which are separate phonemes in the superstrate Spanish and adstrate English, but not in the substrate Tagalog. For example, Spanish *fuego* 'fire' and *familia* 'family' are usually pronounced as ['pwego] and [pa'milja] in Cavite Chabacano. Speakers who consider

themselves upper class or have some command of Spanish sometimes make the distinction, but usually not consistently across Spanish lexical items. Hypercorrection of /p/ to [f] sometimes occurs in the English of Cavite Chabacano and Tagalog speakers, e.g. *peas* [fis] or *airport* [erfɔrt], but such hypercorrection does not apply to words of Spanish origin in any of the data I collected in the field.

The glottal stop is not discussed in Ramos (1963), and German (1932) discusses it only in relation to Tagalog stress patterns. However, descriptions of other Chabacano varieties consider it a phoneme, as it is in Tagalog (Ing 1968, Riego de Dios 1989, Sippola 2011). The glottal stop occurs in Cavite Chabacano words of Tagalog origin (/ˈdaʔiŋ/ ‘dried fish’, /paˈsoʔ/ ‘flower pot’), between /a/ and another vowel in the following syllable in words of Spanish origin (/maˈʔestra/ ‘teacher’, /maˈʔis/ ‘corn’, as discussed in 5.4.3), and inserted into final position in some Spanish words (/ˈpareʔ/ ‘priest’, /maˈniʔ/ ‘peanut’).

Whether the glottal stop is contrastive in initial position is debatable. Descriptions of Ternate Chabacano (Sippola 2011) and Cotabato Chabacano (Riego de Dios 1989) follow the practice of some Tagalog phonological descriptions (e.g. Schachter & Otones 1972) in assuming an underlying initial glottal stop if no other consonant is in initial position. For example, Chabacano *asá* ‘to roast’ would be analyzed as /ʔaˈsa/ underlyingly, contrasting with *kasá* /kaˈsa/ ‘to marry’. However, while Ing (1967, 1968) considers /ʔ/ to be a phoneme in Zamboanga Chabacano, he does not consider it to be contrastive in initial position because its presence is predictable. “It serves for demarcative purposes, and may be regarded as [Ø] or as an accompanying feature of the

vowels” (Ing 1976:76). Word-initial glottal stop is lost when the word is not phrase-initial, and it is not always present even in phrase-initial position. These descriptions hold true for Ternate, Cotabato, and Cavite Chabacano as well, so the differences in Sippola (2010) and Riego de Dios (1989) compared to Ing (1967, 1968) are in the analysis, not in the phonological patterning itself.

There is also debate over how to analyze word-initial (or phrase-initial) /ʔ/ in Tagalog (Llamzon 1970, Marquez 1975, Zuraw 2010). Word-final /ʔ/ in Tagalog contrasts with zero (e.g. /'baga/ ‘ember’, /'bagaʔ/ ‘lung’), but presence or absence of word-initial [ʔ] does not change the meaning of the word (Zuraw 2010:423, Llamzon 1970:121, Yap 1970:62). One reason for positing an underlying glottal stop word-initially is that when there is a prefix before a word that is written with an initial vowel, there is a glottal stop (e.g. the bare stem *away* ‘fight’ /ʔaway/ and the prefixed form *mag-away* ‘to fight’ /mag-ʔaway/). However, the initial glottal stop can also be analyzed as predictably inserted either word- or phrase-initially, and the retention of the glottal stop after a prefix as in *mag-away* is viewed as a failure to resyllabify across the prefix-stem boundary (Zuraw 2010:423). Similar patterns with glottal stop insertion after a prefix have also been observed in Indonesian and analyzed in terms of boundary constraints at the left edge of the Prosodic Word (Pater 2001). Llamzon (1970:121), like Ing (1968) in his analysis of Zamboanga Chabacano, assumes that Tagalog phrase-initial glottal stops “are part of the realizations of the vowel phonemes in these positions”. Yap (1970:62) makes the same observation.

Cavite Chabacano also has prefixes that can occur before words that (otherwise) begin with a vowel, e.g. *mag-ermano* ‘siblings’.³⁸ However, these types of words were not elicited during the word list task, and occur very rarely in the total corpus of data that I collected while in the field, so it is unknown whether Cavite Chabacano tends to retain or insert a glottal stop in such positions or not. Even if it does, one could still make the argument that the word-initial glottal stop is predictable and inserted at the left edge of phonological phrases at different levels of the prosodic hierarchy. For now, based on the current data available, I take the view that glottalization is part of the realization of phrase-initial vowels in Cavite Chabacano (cf. Llamzon 1970, Yap 1970, Ing 1968), likely as a consequence of articulatory strengthening at the phrase boundary (Fougeron & Keating 1997, Keating et al. 2003). Word-initial vowel glottalization has been found to occur at the beginning of prosodic domains in American English, with the highest frequency of occurrence at the beginning of the intonational phrase and lower frequencies found at the beginnings of smaller prosodic constituents (Pierrehumbert & Talkin 1992, Dilley et al. 1996). Future phonetic studies of word-initial glottalization and prosodic structure could determine whether this same pattern holds in Cavite Chabacano.

5.5.2 *Nasals*

Cavite Chabacano has the nasal phonemes /m/, /n/, /ɲ/, and /ŋ/. /ɲ/ occurs only in words of Spanish origin, and /ŋ/ occurs mainly in words of Tagalog origin, although in

³⁸ This *mag-* prefix comes from Tagalog, but is not the same *mag-* prefix in the *mag-away* ‘to fight’ example in the preceding paragraph. The *mag-* in *mag-away* is a verbal prefix, and the *mag-* in *mag-ermano* is a noun prefix that indicates some kind of relationship based on the root word (e.g. *ermano* ‘brother’, *mag-ermano* ‘siblings’).

Spanish-based words, [ŋ] is an allophone of /n/ that occurs before velar consonants (e.g. *blanko* [blaŋko] ‘white’) and sometimes in word-final position (e.g. *takón* [ta.'koŋ] ‘heel’). (15) shows examples of the nasals in onset position, including some minimal pairs, and (16) shows the nasals in coda position. These examples are a combination of data from the *Diccionario Chabacano* (Asociacion Chabacano 2008) and the word list task.

(16)	Onset, word-initial	Onset, word-medial
	/m/ /'ma.lo/ ‘bad’	/su.'ma/ ‘to add, sum’
	/n/ /na/ PREP	/su.'na/ ‘to sound’
	/ɲ/ /'ɲo.ra/ ‘Mrs.’	/su.'ɲa/ ‘to dream’
	/ŋ/ /ŋa/ ‘indeed’	/ba.'ŋus/ ‘milkfish’
(17)	Coda, word-final	Coda, word-medial
	/m/ /'al.bum/ ‘album’	/'im.no/ ‘hymn’
	/n/ /li.'tʃon/ ‘roasted pig’	/tran.'bi.ja/ ‘tram, trolley’
	/ŋ/ /'da.ʔiŋ/ ‘dried fish’	/siŋ.'siŋ/ ‘ring’

The dental nasal /n/ occurs frequently in all the positions listed in (15) and (16), as in both Spanish and Tagalog. The distribution of the other nasals is somewhat more restricted, although examples can be found in all of the positions listed above.

The palatal nasal /ɲ/ occurs mainly intervocalically, as in Spanish. Riego de Dios's (1989) dictionary lists no words other than *ñor* 'sir, mister' and *ñora* 'Mrs.', shortened forms of Spanish *señor* and *señora*, that have the palatal nasal word-initially. It does not occur in coda position. Ramos (1963) does not explicitly say whether or not the /ɲ/ of Spanish is also a phoneme in Cavite Chabacano, but the transcriptions in the glossary of her thesis seem to indicate that she analyzes the sound as a cluster of /n/ + /j/ (e.g. 'cannon' is transcribed in the system she uses as /kanyon/).

However, based on the data from the word list task, the nasal in *kañon* acoustically seems to be one segment rather than two, as shown in Figure 3. The figure compares the four nasals of one speaker in intervocalic position (preceded by /a/ and followed by /o/ or /u/) in the following words: /m/ in *mamón* 'small round cake', /n/ in *rábanos* 'radish', /ɲ/ in *kañon* 'cannon', and /ŋ/ in *bangus* 'milkfish'. This speaker's realizations of the four nasal phonemes are representative of the broader sample.

In *kañon* 'cannon' (bottom left), the F2 of the palatal nasal remains steady, rather than steeply sloping from lower to higher, as might be expected if there were different gestures transitioning from dental to palatal articulation in the production of the sound. The F2 of the nasal in *kañon* is also higher than that of the other three nasals, as is typical of palatal sounds. For these reasons, the palatal /ɲ/ of Spanish is considered to be preserved in Cavite Chabacano in this study, rather than reanalyzed as two separate segments. Its distribution and use in minimal pairs may be somewhat limited compared to the other nasal phonemes, but this status is also true of /ɲ/ in Spanish.

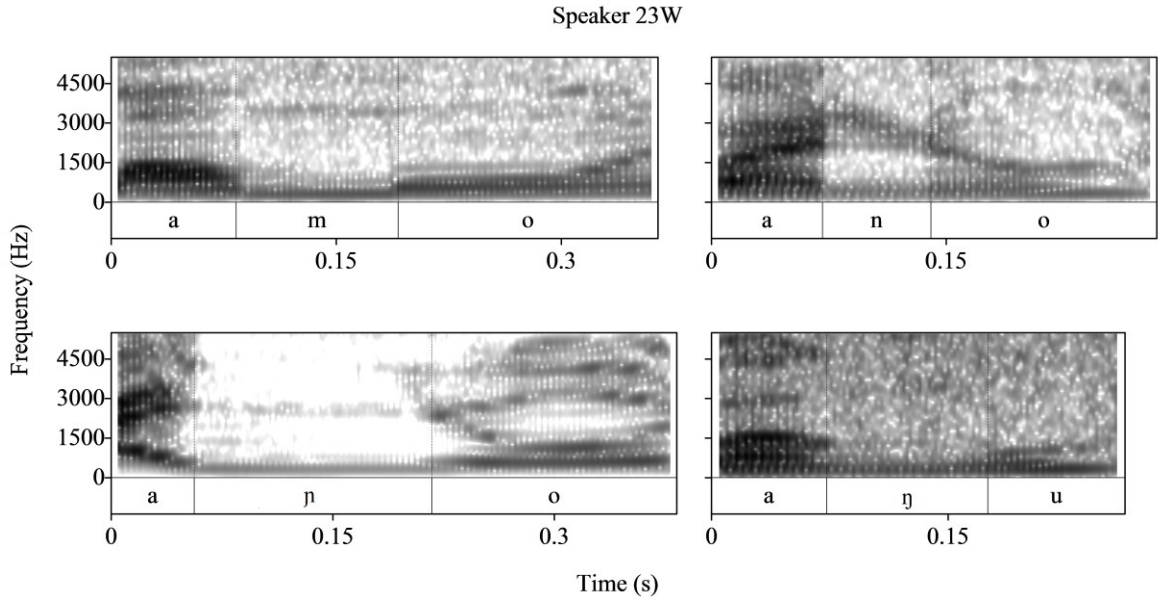


Figure 3. Intervocalic /m/ in *mamón* 'small round cake' (upper left), intervocalic /n/ in *rábanos* 'radish' (upper right), intervocalic /ɲ/ in *kañon* 'cannon' (lower left), and intervocalic /ŋ/ in *bangus* 'milkfish' (lower right).

The velar nasal /ŋ/ occurs in onset and coda, but because of nasal assimilation, usually it occurs in word-medial codas only before the velars /g/ or /k/. However, there are cases when it does not assimilate across morpheme boundaries, e.g. in *pang-tres* [paŋ.'tres] 'third', and in Tagalog words like /siŋ.'siŋ/ 'ring', which some speakers substitute for Chabacano/Spanish /a.'ni.ʎo/ 'ring'.

The labial /m/ can occur in onset or coda, as in both Spanish and Tagalog, but word-finally it is rare. It is also in rare in Spanish in that position, occurring only in loanwords like *álbum* 'album' (< English *album*; Hualde 2005:176), but it is quite

common in Tagalog. Word-final /m/ in Cavite Chabacano occurs in loanwords from English or Tagalog, for example, in English *album* ‘album’ or Tagalog *ulam* ‘main dish’.

As in both Spanish and Tagalog, Cavite Chabacano nasals tend to assimilate to the following place of articulation, as shown in the examples in (18).

(18) a. $n \rightarrow m / __ [+labial]$

/tran.'bi.ja/ → [tram.'bi.ja] ‘tram, trolley’

b. $n \rightarrow n / __ [+alveolar]$

/ben.'ta.na/ → [ben.'ta.na] ‘window’

c. $n \rightarrow \eta / __ [+velar]$

/'blan.ko/ → ['blan.ɰ.ko] ‘white’

5.5.3 Rhotics

According to Ramos (1963), Cavite Chabacano has two rhotic phonemes, which she refers to as “retroflex” and “multiple”. It is more accurate to say that Cavite Chabacano maintains the Spanish distinction between the tap /ɾ/ and trill /r/, which Tagalog does not have. The tap can be realized as an approximant that sounds somewhat like the [ɹ] of American English, but that pronunciation is not as common as the tap. A detailed comparison of the distributions of /ɾ/ and /r/ in Spanish and Cavite Chabacano is shown in Table 6. The Spanish examples come from Hualde (2005:181-184), and the Cavite Chabacano examples come from a combination of the word list task, interview speech for the multi-word examples, and dictionary data (Asociacion Chabacano 2008).

The asterisks next to /r/ in certain environments in the Spanish column indicate that Hualde describes the rhotic there as variable, but usually [r]. He subsequently transcribes his examples for those categories with /r/. Asterisks in the Cavite Chabacano column indicate the same pattern.

	Spanish		Cavite Chabacano	
Onset				
Word-initial (#_)	/r/	/'ro.ka/ 'rock'	/r/	/'rej/ 'king' /'ra.ba.nos/ 'radish'
Onset cluster (C_)	/r/	/'bro.ma/ 'joke'	/r/	/'bru.ha/ 'witch' /'pru.tas/ 'fruit'
Intervocalic (V_V)	/r/	/'ka.ro/ 'car'	/r/	/'ka.ro/ 'funeral car'
	/ɾ/	/'ka.ro/ 'expensive'	/ɾ/	/'ka.ro/ 'expensive'
After a heterosyllabic consonant (C_)	/r/	/al.re.de.'dor/ 'around' /en.'re.do/ 'mess'	/r/	/al.re.de.'dor/ 'around' /en.'ri.ke/ 'Enrique' (name) /san.ro.ke/ 'San Roque'
Coda				
Before a consonant (V_C)	/r/*	/par.te/ 'part'	/r/	/par.te/ 'part' /ber.de/ 'green'
Word-final before a consonant (V_#C)	/r/*	/'ser po.'e.ta/ 'be a poet'	/r/	/el lu.gar de saŋ.gli/ 'the place Sangley'
Word-final before a vowel (V_#V)	/r/	/'ser a.'mi.gos/ 'be friends'	/r/	/el lu.'gar a.'ki/ 'the place here'
Word-final before a pause (V_##)	/r/*	/'ser o 'no 'ser/ 'to be or not to be'	/r/*	[ben.ti.la.dor] 'electric fan' [ben.ti.la.dor] 'electric fan'

Table 6. Comparison of the distributions of /r/ and /ɾ/ in Spanish (Hualde 2005:181-184)

and Cavite Chabacano. Asterisks indicate that the pronunciation of the rhotic in that environment is variable, but usually /ɾ/.

The distribution of /r/ and /r/ remains close to that of Spanish. Contrast occurs only in intervocalic position, as in /'ka.ro/ 'funeral car' and /'ka.ro/ 'expensive', or /'pe.ro/ 'but' and /'pe.ro/ 'dog'.³⁹ In other onset contexts, only the tap /r/ is found in consonant clusters (e.g. /'bru.ha/ 'witch), and /r/ is found word-initially. Spanish has the trill /r/ in onset after a heterosyllabic consonant, e.g. the first rhotic in *alrededor* 'around'. There are few examples of such words in the corpus collected for this study, but they seem to be variable. There are examples of *alrededor* and *Enrique* that have the tap; however, *San Roque* is produced with either the tap or trill. I tentatively follow Hualde's classification of /r/ for this context, but this is one area that should be further investigated.

Hualde (2004, 2005) refers to the trill as a quasi-phoneme because of its limited distribution, even though the contrast between the tap and trill is robust intervocalically. The contrast between tap and trill in Cavite Chabacano may be marginal as well, but it is important to recognize the distinction because the two sounds are generally recognized as distinct in descriptions of Spanish. Classifying the Cavite Chabacano tap and trill into one category based on their limited contrast would give the false impression that the creole is simpler than the superstrate in this area of the phonology, when in fact the rhotics pattern nearly identically in the two languages.

Hualde classifies only Spanish /r/ as occurring in coda position, although before a consonant word-internally and word-finally (e.g. *parte* 'part', *ser poeta* 'to be a poet') or word-finally before a pause (e.g. *ser o no ser* 'to be or not to be'), the realization of the

³⁹ Speakers have metalinguistic awareness of this distinction. While attempting to ask participants in the field if they noticed *perro* 'dog' being pronounced as ['pe.hro] or ['pe.hro], which I have difficulty producing, I was corrected and told that ['pe.ro] is 'dog' and ['pe.ro] is 'but'.

rhotics is variable, with [r] alternating with [ɾ]. Word-finally before a vowel (e.g. *ser amigos* ‘be friends’), only /r/ occurs. These observations also seem to hold for Cavite Chabacano, although there is less alternation with the trill before a consonant.

The tap and trill both have many variants. /r/ can be realized as [r], [ɾ], [ɹ], or [l] in coda position, with variation within and across speakers. Future study will show more precisely what social or linguistic factors affect this variable. The use of [ɹ] is likely the result of influence from American and Philippine English. [ɹ] can also occur in onset, but its use in coda position is more common, e.g. /dok'tor/ → [dok'to.ɹ] ‘doctor’. The alternation with [l] in coda is vestigial, reflecting an earlier period when neutralization between [r] and [l] was more productive than it is today (Lipski 1987:44). For example, /mu'her/ ‘woman’ and /er'mano/ ‘brother’ can be realized as [mu'her] ~ [mu'hel] and [er'mano] ~ [el'mano]. However, most other words in the word list task or the rest of the corpus do not have [l] ~ [r] coda alternation, for example, /dok'tor/ or /ben.ti.la.'dor/ ‘electric fan’.

Figure 4 shows spectrograms comparing different examples of /r/ in coda position in the word *muher* ‘woman’, taken from the word lists of four different speakers. The example in the upper left shows the last syllable of *muher* with a single tap, whereas the upper right example has a trill [r] with two visible taps. As in Spanish, the tap realization seems to be more common than the trill in word-final position. The lower left spectrogram shows an example of coda /r/ being realized as [l], and the lower right shows an example of [ɹ].

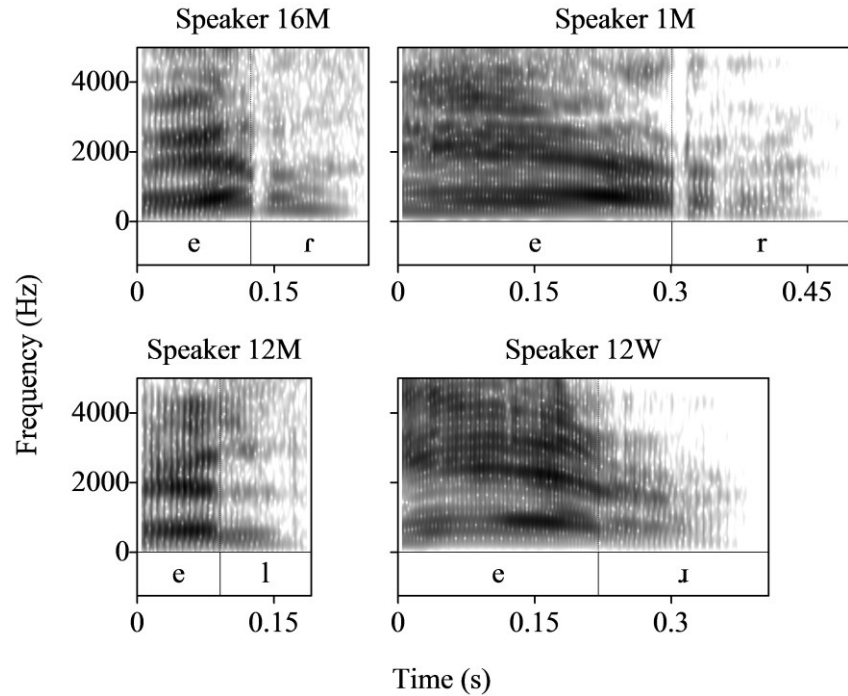


Figure 4. Coda /r/ realized as [r], [r], [l], and [ɾ] in the word *muher* ‘woman’

The trill /r/ can occasionally be realized as [r] intervocalically, but [r] is generally preserved. The trill is also analyzed as the underlying rhotic in word-initial position, following Hualde (2004, 2005). Although word-initial rhotics can be realized as [r], [r] seems to be more common, likely due to fortition at the beginning of the prosodic domain. Fortition of /r/ in word-initial position is common in Spanish and other Romance languages (Hualde 2004). In Caridad, many speakers also produce a preaspirated tap [hr] or trill [hr] as another variant of /r/. The preaspirated variants seem to be phonetically similar to the trills in some varieties of Dominican Spanish (Willis 2006, 2007). Not all Caridad speakers use [hr] or [hr], but those who do produce it consistently where other

Cavite Chabacano speakers have [r]. Speakers with preaspiration come mostly from the Calumpang neighborhood of Caridad.⁴⁰ These preaspirated taps or trills occur not only intervocally, but also phrase-initially, e.g. /'rej/ → ['hrej] 'king'. Figure 4 shows examples comparing San Roque [r] and Caridad [hr] in the word *perro* 'dog', taken from the word lists of two speakers.

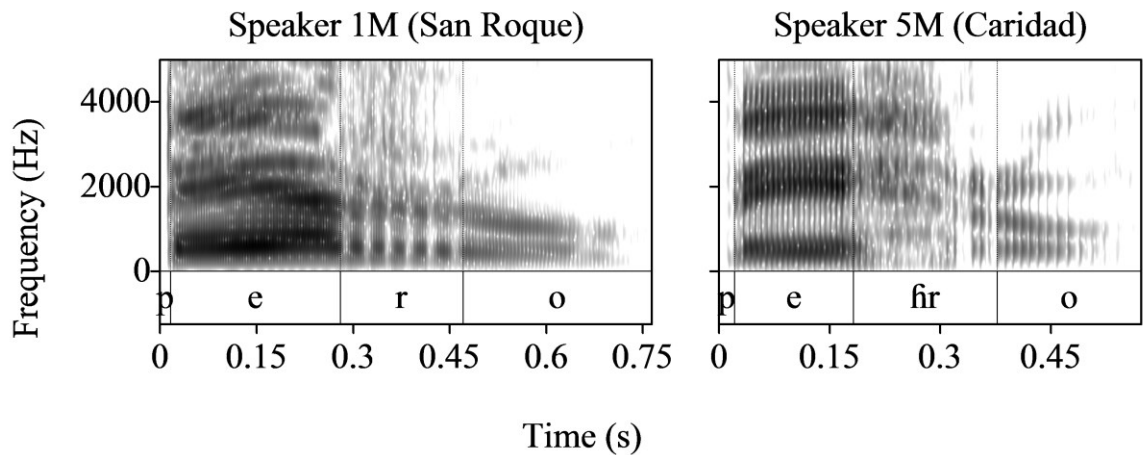


Figure 5. Dialectal variation in the production of /r/

In the spectrogram on the left in Figure 5, the speaker from San Roque produced a trill with several visible taps. On the right, the speaker from Caridad produced a trill with two taps that are preceded by a long period of breathiness.

⁴⁰ There may be a class distinction here which should be further investigated. Calumpang is one of the traditional *barrios* 'neighborhoods' of Caridad, which was once a separate town from San Roque (Chapter 2.3.2). Today, it seems to have a reputation; some members of the community warned me not to go there alone because they thought it was too dangerous. In the perceptual dialectology task it was also often referred to as *tierra popo* 'muddy land' with either pride or derision, depending on where the person was from (see Chapter 7).

German (1932) described coda /r/ as assibilating or aspirating before /l/ or /n/, e.g. *adorno* ‘decoration’, which he also writes as *adóh-no*, and *cisní* ‘to sift’ (< Sp. *cernir*), which he also writes as *cih-ní*. These patterns were not observed in the corpus collected for this dissertation.

5.5.4 Laterals

Cavite Chabacano has two lateral consonants, /l/ and /ʎ/. /l/ can occur in syllable onset or coda position, and /ʎ/ occurs only in onset. Some examples of the distribution of these two phonemes are given in (19) and (20).

(19)	Onset, word-initial	Onset, word-medial
	/l/ /'la.na/ ‘wool’	/'pe.lo/ ‘hair’
	/'la.gri.mas/ ‘tears’	/'bo.la/ ‘ball’
	/ʎ/ /'ʎa.no/ ‘plain, smooth’	/pe.'ʎe.ho/ ‘peel, skin’
	/ʎa.be/ ‘key’	/'o.ʎa/ ‘pot’
(20)	Coda, word-final	Coda, word-medial
	/l/ /pi.'tʃel/ ‘pitcher’	/al.go.'don/ ‘thread’
	/a.'su.kal/ ‘sugar’	/'pol.bos/ ‘powder’

The origin of final /l/ in some words comes from early adaptation of Spanish final /r/ as /l/, or indirect borrowings of Spanish loanwords from Tagalog with the same

adaptation, as in /a'sukal/ ‘sugar’ (cf. Tagalog *asukal*). The coda [l] in this word, unlike in [mu'her] ~ [mu'hel] ‘woman’ and [er'mano] ~ [el'mano] ‘brother’, almost never alternates with [r]. There are also Spanish dialects that neutralize /r/ and /l/ in coda position (Penny 2000:150-151), so it is possible that this alternation was part of the original Spanish input in Cavite.

The palatal lateral /ʎ/ occurs only in onset position. Having this phoneme is one feature that differentiates Cavite Chabacano from Ternate Chabacano, which does not have the distinction between /j/ and /ʎ/ found in Old Spanish. Only a few remaining Spanish varieties still make this distinction (Hualde 2005:179-180), but Philippine Spanish is among them (Lipski 1987:41; Sippola 2011:44, 53). Sippola mentions that some Ternate Chabacano speakers sometimes produce a [lj] sequence as a variant of /j/.

In Cavite Chabacano, [j] or [l] for /ʎ/ instead of [ʎ] or [lj] is rare. German (1932:25) lists only two examples of Spanish /ʎ/ > Cavite Chabacano /l/, and one example of Spanish /ʎ/ > Cavite Chabacano /j/:

(21)	Spanish	Cavite Chabacano	Gloss
	/ʎ/ > /l/ <i>rallar</i>	<i>ralá</i>	‘to grate’
	<i>ellos</i>	<i>ilós</i>	3SG pronoun
	/ʎ/ > /j/ <i>galleta</i>	<i>gayeta</i>	‘biscuit’

Cavite Chabacano speakers eventually developed /ʎ/ as distinct from /l/ and /j/, so examples like those in (21) are rare.

The spectrograms in Figure 6 show some typical examples of how /ʎ/ is realized in Cavite Chabacano. The palatal lateral is shown intervocally in the word *repollo* ‘cabbage’ from the word lists of three speakers, with some variation between them.

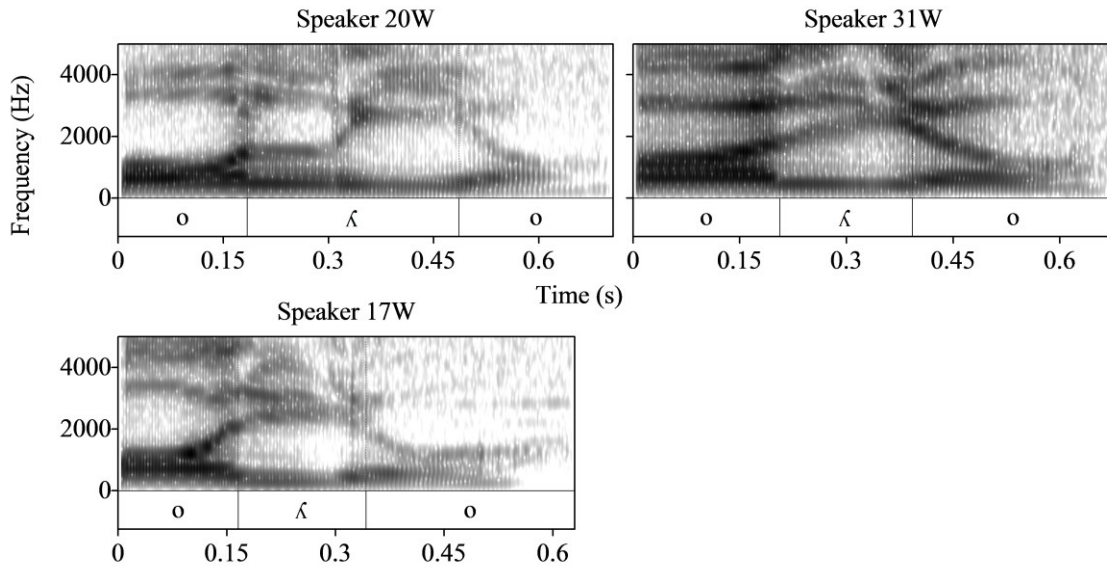


Figure 6. Examples of variation in the realization of intervocalic /ʎ/ in the word *repollo* ‘cabbage’ by three speakers

The spectrograms in Figure 6 show the range in how /ʎ/ can be produced. Speaker 20W on the top left has two separate gestures similar to /l/ + /j/, with a steep rise as the F2 transitions from the /l/-like to the more palatal portion. Speaker 31W produces /ʎ/ with a more gradual transition in the palatalization of the lateral, and 17W has a higher F2 from the beginning that maintains a level trajectory over the duration of the segment. The lower left and top right examples seem to be more common across speakers, but this

observation should be confirmed by a quantitative study of the production of /ʎ/. It also seems that there is variation within speakers because speaker 20W sometimes also produces /ʎ/ similar to the other ways shown in Figure 6.

Figure 7 shows a comparison of Speaker 20W's intervocalic /ʎ/ in *repollo* 'cabbage' (the same example from Figure 6), intervocalic /l/ in *koloraw* 'red', and intervocalic /j/ in *bieha yo* 'I'm old'.⁴¹ Her example of /ʎ/ in the upper part of this figure is similar to the two separate pronunciations of /l/ and /j/ in the lower part of the figure.

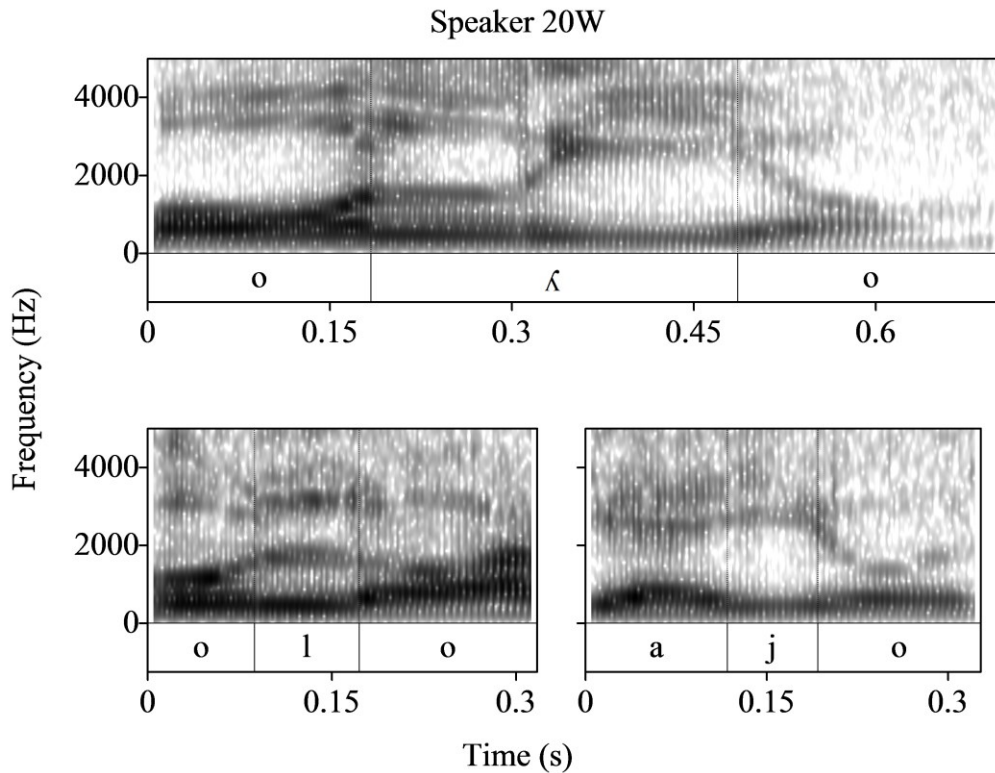


Figure 7. Intervocalic /ʎ/ in *repollo* 'cabbage', /l/ in *koloraw* 'red', and intervocalic /j/ in *bieha yo* 'I'm old' in the speech of one speaker

⁴¹ The first two examples are from her word list task, but the third is from her interview speech. There were few /j/ tokens in the word list task that had phonological contexts comparable to the /ʎ/ and /l/ examples.

Similar to her description of Spanish /ɲ/ as a /n/ + /j/ cluster in Cavite Chabacano, Ramos (1963) categorizes the palatal lateral of Spanish as a cluster of /l/ + /j/. Given speaker 20W's example of /ʎ/ in Figures 6-7, it is easy to see why Ramos may have categorized it that way. However, the other two examples in Figure 6, with the high, gradually rising or level F2, seem to be the more common types across speakers, motivating the analysis of the sound as one palatal segment.

5.5.5 Fricatives

There are two fricatives in Cavite Chabacano, /s/ and /h/. These are also the only two fricatives in Tagalog (Schachter & Otones 1972). Spanish has /s/, /x/, and /f/, as well as /θ/ in north-central Peninsular Spanish (Hualde 2005:55). Spanish /x/ is usually [h] in the Caribbean, Central America, and Columbia, and [x] in Mexico, Peru, Chile, and Argentina (Hualde 2005:155). The distributions of Cavite Chabacano /s/ and /h/ are shown in (22) and (23). Most of these examples come from the word list task, with some supplementary data from the *Diccionario Chabacano* (Asociacion Chabacano 2008).

(22)	Onset, word-final	Onset, word-medial
	/s/ /'sus.to/ 'shock, amazement'	/ku.'si/ 'to cook'
	/so.'pa/ 'sofa'	/a.sa.'pran/ 'turmeric'
	/h/ /'hus.to/ 'correct, just'	/ku'.hi/ 'to catch'
	/ha.'le.ja/ 'jelly'	/kru.si.'pi.ho/ 'crucifix'

(23)	Coda, word-final	Coda, word-medial
/s/	/'pla.ta.nos/ 'banana'	/es.'tre.ʎa/ 'star'
	/ma.'ʔis/ 'corn'	/'pas.kwa/ 'Christmas'

Cavite Chabacano /s/ occurs in onset or coda, but there is some vestigial aspiration or deletion that occurs in final position. The aspiration or deletion of coda /s/ is widespread in southern Peninsular and Latin American Spanish dialects (Hualde 2005:161-165), and the occurrence of this feature in certain modern Cavite Chabacano words reflects an earlier period when those processes were more common in the Spanish of Cavite. According to Lipski (1986), the earlier variety of Spanish spoken in the Philippines had Mexican and Andalusian Spanish features, including /s/ aspiration, but in the late 1800s a more conservative non-aspirating variety of Peninsular Spanish was spoken there. As a result, certain Cavite Chabacano words have aspiration or deletion while others do not. For example, the pronouns *nisos* (1PL), *bos* (2SG intimate), and *ustedes* (2PL) are usually pronounced as [niso], [bo], and [ustedɪ] or [tedɪ]. In the word list task, *plátanos* 'banana(s)' occurred with or without the final /s/.⁴² However, other items in the word list such as *plores* 'flower(s)', *alahas* 'jewelry', *krus* 'cross', and *peskaw* 'fish' never had coda /s/ aspiration or deletion. Tagalog-origin words such as *bangus* 'milkfish' are also unaffected by this process.

⁴² ['platano] is not an example of using the singular instead of plural marking with *-s*. The picture used for eliciting *plátanos* in the word list task had several bananas in it. While *-s* is the Spanish plural marker, *mga* /ma'ŋa/ (< Tag.) is the main plural marker in Cavite Chabacano, and many words like *plátanos* 'bananas(s)' and *sapatos* 'shoe(s)' are lexicalized with *-s*, which is used whether the item is plural or singular.

As mentioned for the stops /t/ and /d/, /s/ is affected by a process of coronal obstruent palatalization before /j/, which is also found in modern Tagalog. For example, /par'masja/ 'pharmacy' and /sju'dad/ 'city' are usually pronounced as [par'maʃa] and [ʃu'dad].

Cavite Chabacano /h/ has two different historical origins. One is the pronunciation of <h> in Spanish words like *harina* 'flour', *humo* 'smoke', and *hombre* 'man'. Historically, the <h> in these words reflects Old Spanish /h/, ultimately deriving from Latin /f/, and /h/-pronouncing varieties can still be found today in rural areas of southern Spain and Latin America (Penny 2000:162-163). In Cavite Chabacano, words like *harina*, *humo*, and *hombre* can be pronounced with or without [h]. The [h] pronunciation seems to be more common in Caridad than in San Roque.

The second historical origin of Cavite Chabacano /h/ is Spanish /x/, spelled in Spanish and sometimes in Chabacano with <j>, e.g. Sp. *jabón* 'soap'. Historically, modern Spanish /x/ is a reflex of Old Spanish /ʃ/ merged with /z/ (Penny 2000:42-45). In Tagalog, these older Spanish sounds were adapted into the language as /s/ in loanwords, but Cavite Chabacano has the more modern /h/. For example, *jabón* 'soap' is *sabon* in Tagalog and *habon* in Cavite Chabacano. Tagalog reflects the more archaic form, but Cavite Chabacano has the more modern form due to direct contact with the Peninsular Spanish speakers who were present in Cavite City during the 1800s.

I do not consider /h/ to occur in word-final coda position in Cavite Chabacano, but this is a matter of some debate, parallel to the issue of whether the glottal stop should be considered contrastive in phrase-initial position (see 5.5.1). Following the convention

of some Tagalog descriptions (e.g. Schachter & Otones 1972), Cotabato Chabacano (Riego de Dios 1989) and Ternate Chabacano (Sippola 2011) are described as having an underlying word-final /h/ when there is no other coda consonant. This /h/ does not occur in word-internal codas and is not present when the word is not phrase-final in any Chabacano varieties or Tagalog. For Tagalog, the motivation for positing an underlying /h/ word-finally is that [h] is often present when *-an* or *-in* suffixes are added to an otherwise vowel-final root, e.g. *sabi* ‘say (root)’ and *sabihin* ‘say (object focus)’, and is not present when the root ends in a consonant (Schachter & Otones 1972:23).

Cavite Chabacano also commonly has phrase-final breathiness in CV syllables that could be interpreted as /h/, as in the analyses of Cotabato and Ternate Chabacano. It also has a suffix similar to the Tagalog ones described above, e.g. the bare form *platicá* ‘talk’ becomes *mang-platicahan* ‘talking (reciprocal)’. Data on this suffix is sparse in my corpus and in other published work, but Escalante’s textbook (2010:63-64) describes it as *-han*, with the [h] as part of the suffix. This analysis seems reasonable given that all Cavite Chabacano verbs end in vowels. There is no morphophonemic alternation involving the suffix and no reason to view the [h] as epenthetic. Ramos (1963:43) describes word-final /h/ only in certain contexts, not after all word-final vowels. She claims that Cavite Chabacano verbs have /h/ in place of the final /t/ of Spanish infinitives. However, she does not include this final /h/ in her transcriptions of Cavite Chabacano verbs, so it is unclear whether she views it as a phonological or phonetic property.

As with the glottal stop in phrase-initial position, the presence of phrase-final breathiness in Cavite Chabacano is predictable and non-contrastive with zero. Therefore,

I analyze this breathiness as a phonetic property of the vowels as they are lengthened at the end of a prosodic phrase, rather than as an underlying phoneme. I follow the analysis of Yap (1970:62) and Llamzon (1970:73) for Tagalog, and Ing (1968:86) for Zamboanga Chabacano, by considering the phrase-final breathiness a prosodic boundary effect. Perhaps the reason that Ramos (1963) noticed an /h/-like pronunciation of Cavite Chabacano verbs is that the forms based on Spanish infinitives have final stress, and therefore the final vowels are longer in duration and may seem more breathy compared to unstressed final vowels.

5.5.6 *Affricates*

Cavite Chabacano has one affricate phoneme, /tʃ/, which appears only in syllable onset (Ramos 1963:30). This sound is also the only affricate phoneme in Spanish (Hualde 2005:152) and in Tagalog, although Schachter & Otones (1972:24) are tentative in the classification of /tʃ/ as a Tagalog phoneme because it occurs mainly in Spanish and English loanwords. (24) shows some examples from the word list task of /tʃ/ in word-initial and word-medial onset.

(24)	Onset, word-initial	Onset, word-medial
	/tʃ/ /'tʃon.go/ 'monkey'	/li.'tʃon/ 'roasted pig'
	/tʃo.ko.'la.teʔ/ 'chocolate/	/pi.'tʃel/ 'pitcher'

The voiced affricate [dʒ] appears only as an allophone of /d/ before /j/ (see 5.5.1), and in English loanwords like *jeep* /dʒip/.

5.5.7 Glides

Cavite Chabacano has the glides /j/ and /w/. These phonemes are also part of the Tagalog consonant inventory (Schachter & Otones 1972). In Spanish, Hualde (2005:55) considers the glides to be allophones of the high vowels and not independent phonemes. Spanish also has a voiced palatal fricative /j/, orthographically represented by <y> in words such as *Mayo* ‘May’, that Hualde (2005:165-172) describes as quasi-phonological. Cavite Chabacano has /j/ as a reflex of this sound.

The distributions of Cavite Chabacano /j/ and /w/ in simple onsets and codas are shown in (25) and (26). Only a few of these words were elicited in the word list task (*webos* ‘egg’, *yema* ‘yolk’ or ‘type of candy’, *haleya* ‘jelly’, and *plawta* ‘flute’), so the other examples are drawn from Asociacion Chabacano (2008). Further examples of their occurrence in consonant clusters are discussed in 5.6.1.

(25)	Onset, word-initial	Onset, word-medial
/j/	/ja/ ‘already’	/ha.'le.ja/ ‘jelly’
	/'je.ma/ ‘yolk’ or ‘type of candy’	/'da.jo/ ‘outsider, foreigner’
/w/	/'we.bos/ ‘egg’	/as.'waŋ/ ‘vampire/witch-like creature’
	/wa.so.'wa.so/ ‘mediocre’	/ta.gi.'ha.wat/ ‘pimple’
(26)	Coda, word-final	Coda, word-medial
/j/	/sa.'la.baj/ ‘jellyfish’	/paj.'na/ ‘to comb’

/ber.'daj/ 'true, authentic'	/'rej.na/ 'queen'
/w/ /ka.ra.'baw/ 'water buffalo'	/baw.ti.'sa/ 'to baptize'
/daw/ REPORTATIVE	/'plaw.ta/ 'flute'

Both glides are found in onset and coda. As the examples in (25) show, /w/ in onset is more common in words of Tagalog origin, e.g. /ta.gi.'ha.wat/ 'pimple', /as.'wan/ 'vampire/witch-like creature', and /wa.so.'wa.so/ 'mediocre'. The glides in Spanish-based words in (24) and (25), e.g. /'we.bos/ 'egg' < Sp. *huevos* and /'rej.na/ < Sp. *reina* 'queen', have their origin in Spanish diphthongs.

5.6 Prosody

This section provides a brief introduction to the syllable, word, and phrase level prosodic structure of Cavite Chabacano and summarizes some of the effects that prosody at different levels can have on the realization of the vowels and consonants. A full analysis of Cavite Chabacano intonation, taking into account the pragmatic functions of specific contours in different utterance types (cf. Prieto & Roseano 2010 for various Spanish dialects), is beyond the scope of this study, but Section 5.6.3 offers some discussion of post-lexical vs. lexical tonal prominence.

5.6.1 Syllable structure

Table 7 summarizes the syllable types found in Cavite Chabacano. The most simple syllable type is a vowel nucleus with no onset or coda, as in the conjunction /i/ ‘and’ or the first syllable of /a.ˈʎa/ ‘there’. Consonant clusters can occur in onset or coda. The majority of these examples come from the word list task or the story reading task, with some supplementary data from dictionaries (e.g. *experto*, *propriedad*). The *Diccionario Chabacano* (Asociacion Chabacano 2008), Riego de Dios (1989), and Escalante (2005) were also consulted to check syllabification patterns, which agreed across the different sources.

Syllable types	Examples
V	/i/ ‘and’ /a.ˈʎa/ ‘there’
VC	/el/ ‘the’ /es.ˈtre.ʎa/ ‘star’
CV	/pa/ ‘yet, still’ /ˈbi.no/ ‘wine’
CCV	/ˈom.bre/ ‘man’ /ˈkwi.tis/ ‘firework’
CVC	/ˈpo.noʔ/ ‘tree’ /mu.ˈheɾ/ ‘woman’
VCC	/eks.ˈper.to/ ‘expert’ /ins.pi.ˈra/ ‘inspire’
CVCC	/ˈbejn.te/ ‘twenty’ /ˈsejs/ ‘six’
CCVC	/ˈtres/ ‘three’ /ˈplan.tʃa/ ‘iron’
CCCV	/pro.pɾje.ˈdad/ ‘property’ /ˈtrwe.no/ ‘thunder’

Table 7. Cavite Chabacano syllable types

Table 8 summarizes the different positions in which each consonant can occur. Parentheses around the + symbol indicate that a segment occurs in that position, but only rarely. Sounds in Cavite Chabacano words generally follow the phonotactic patterns of their language of origin. In most cases, segments are rare in positions marked with (+) because they are also rare in the same positions in Spanish, e.g. coda /m/ and all word-final stops except /d/. The phonemes /ŋ/ and /w/ are not rare in Tagalog, but it was difficult to find Cavite Chabacano examples in the data available. Most of the vocabulary of Cavite Chabacano comes from Spanish, which does not have /ŋ/ or /w/ as phonemes. /ʔ/ is also of Tagalog origin, but it is not rare in Cavite Chabacano because it has been inserted into many words of Spanish origin (e.g. [ma'ʔis] ‘corn’, [ma.'niʔ] ‘peanut’).

Consonant	Onset		Coda	
	Word-initial	Word-medial	Word-final	Word-medial
/b/	+	+	(+)	+
/d/	+	+	+	+
/g/	+	+	(+)	+
/p/	+	+	(+)	+
/t/	+	+	(+)	+
/k/	+	+	(+)	+
/ʔ/	–	+	+	–
/m/	+	+	(+)	(+)
/n/	+	+	+	+
/ɲ/	+	+	–	–
/ŋ/	+	+	+	(+)
/r/	+	+	–	–
/ɾ/	–	+	+	+
/l/	+	+	+	+
/ʎ/	+	+	–	–
/s/	+	+	+	+
/h/	+	+	–	–
/tʃ/	+	+	–	–
/j/	+	+	+	+
/w/	+	(+)	+	+

Table 8. Possible consonant positions within the syllable and word

All consonants appear in onset position. Onset /ʔ/, /r/, and /ɲ/ are generally found in word-medial position and not word-initially, e.g. /'da.ʔiŋ/ 'dried fish', /'pe.ro/ 'but', and /'pa.ɲo/ 'handkerchief'. In coda position, /ɲ/, /r/, /k/, /h/, and /tʃ/ do not occur, and /m/ is rare. /ʔ/ is found in coda position word-finally, but not word-medially.

Complex CC onsets involve the liquids /r/ and /l/ or the glides /w/ and /j/ as the second element (Ramos 1963:55-57), e.g. /'om.bre/ 'man' and /'kwi.tis/ 'firework' in Table 7. (27) shows the possible consonant cluster combinations of stops with /r/ and /l/, with examples drawn from Asociacion Chabacano (2008). Other classes of consonants do not form clusters with liquids. As in Spanish and Tagalog, the stops /t/ and /d/ do not form clusters with /l/.

(27)	/r/	/l/
	/p/ /'pri.to/ 'fried'	/'pla.to/ 'plate'
	/b/ /briŋ.'ka/ 'to jump'	/'blan.do/ 'soft, tender'
	/t/ /tren/ 'train'	
	/d/ /dra.'gon/ 'dragon'	
	/k/ /kre/ 'believe'	/'kla.ro/ 'clear'
	/g/ /gri.'ta/ 'to shout'	/'glo.rja/ 'glory'

There is often a short epenthetic vowel between the stop and liquid, but full vowels are not inserted in modern Cavite Chabacano, as has been reported for Spanish

loanwords in rural dialects of Tagalog (Cena 1979)⁴³. However, it seems that older Cavite Chabacano may have had a tendency to break up consonant clusters. For example, German (1932:30) lists Spanish *tranvía* ‘streetcar’ as *tarambía* in Cavite Chabacano, but in the word list task, this word does not have a full vowel inserted.

The examples in (28) show the possible consonant + glide combinations. All consonants except for /ʔ/, /ŋ/, and /ʎ/ can form clusters with glides. These examples are drawn mostly from Asociacion Chabacano (2008), but the few that were also elicited in the word list task (*trweno* ‘thunder’, *gwardia* ‘guard’, *bianda* ‘meal’, and *abichwelas* ‘beans’) were used to confirm acoustically that these words are pronounced with consonant clusters, with no epenthesis before the glide. Prescriptively, words like /'pwe.de/ ‘can’ and /sju.'dad/ ‘city’ should be spelled *puwede* and *siyudad* in Tagalog, indicating epenthesis, but in informal spellings today the epenthetic [u] and [i] are often omitted, which matches the modern pronunciation. Cavite Chabacano, at least in its modern form, does not insert [u] or [i] in these contexts.

(28)	/j/	/w/
	/p/ /'pjes/ ‘feet’	/'pwe.de/ ‘can, able’
	/b/ /'bjan.da/ ‘meal’	/a.'bwe.lo/ ‘grandfather’
	/t/ /'tjen.da/ ‘store’	/'twa.ʎa/ ‘towel’
	/d/ /'djen.te/ ‘tooth’	/'dwen.de/ ‘dwarf’

⁴³ Tagalog did not have consonant clusters before Spanish contact. Cena (1979) reports that Manila Tagalog generally pronounces Spanish and English loanwords with the original cluster, but rural dialects with less Spanish/English contact tend to insert an epenthetic vowel, e.g. Sp. *frito* ‘fried’ > Tag. [prito] in Manila and [pirito] in rural villages.

/k/	/'kje.re/ 'want'	/'kwen.to/ 'story'
/g/		/'gwar.dja/ 'guard'
/m/	/'mje.do/ 'fear'	/'mweb.les/ 'furniture'
/n/	/'nje.to/ 'grandson'	/'nwe.bo/ 'new'
/ɲ/		/pa.'ɲwe.lo/ 'handkerchief'
/r/	/'rje.go/ 'Riego' (name)	/'rwe.da/ 'wheel'
/r/	/pro.pɾje.'dad/ 'property'	/'trwe.no/ 'thunder'
/s/	/sju.'dad/ 'city'	/'swe.gra/ 'mother-in-law'
/h/	/ko.'le.hjo/ 'college'	/'hwe.bes/ 'Thursday'
/tʃ/		/a.bi.'tʃwe.las/ 'beans'
/l/	/ka.'ljen.te/ 'hot'	/'lwe.go/ 'later'

(28) also shows that it is possible to have CCC onsets involving a stop, /r/, and a glide, e.g. /'trwe.no/ 'thunder' and /pro.pɾje.'dad/ 'property'. CCC clusters with /l/ as the second element may also be possible, but more elicitation would be needed to confirm whether it occurs.⁴⁴

Cavite Chabacano preserves the Spanish epenthetic vowel /e/, avoiding onset clusters with /s/, e.g. /es.'tre.ʎa/ 'star' and /es.'kwe.la/ 'school'. This vowel is often reduced or raised slightly to [ɪ] because it is unstressed. The raising is likely also influenced by Tagalog, which borrowed similar Spanish words with /i/ rather than /e/,

⁴⁴ The *Diccionario Chabacano* (Asociacion Chabacano 2008) lists *pliegues* 'wrinkle' (< Sp. *pliegue*) with the transcription /pliYEges/, indicating that there may be an epenthetic vowel in such clusters. This word does not occur in my corpus, and examples of other words with possible CCC clusters in the dictionary are rare or non-existent.

usually pronounced [ɪ], e.g. *iskuwela* ‘school’. Tagalog also has /i/ as the epenthetic vowel in newer English loanwords with /s/ in clusters (Zuraw 2007:292-293). In Cavite Chabacano, the epenthetic vowel is sometimes deleted because it is unstressed, resulting in a consonant cluster beginning with /s/, e.g. [ˈstre.ɭa] ‘star’. However, epenthesis can be considered a productive process rather than just a preservation of the Spanish form because it also occurs in English loanwords, e.g. [ɪs.ˈmɑrt] ‘smart’.

Consonant clusters can also occur in coda position. They can involve /j/ and /n/ (/ˈbejn.te/ ‘twenty’), glides and /s/ (/ˈsejs/ ‘six’), /n/ and /s/ (/ins.piˈra/ ‘inspire’), and /k/ and /s/ (eks.ˈper.to/ ‘expert’).

5.6.2 *Word level prosody*

Cavite Chabacano has lexical stress (Ramos 1963:66-67). Examples of some minimal pairs for stress that were elicited during the word list task and carrier phrase task are shown in (29).

(29)	Penultimate stress	Ultimate stress
	/ˈma.sa/ ‘dough’	/ma.ˈsa/ ‘to mash, knead’
	/ˈka.sa/ ‘house’	/ka.ˈsa/ ‘to marry’
	/ˈgwar.dja/ ‘guard’	/gwar.ˈdja/ ‘to guard’
	/ˈna.da/ ‘nothing’	/na.ˈda/ ‘to swim’

Many of the minimal pairs occur in related penultimate stressed nouns and ultimate stressed verbs (e.g. /'ma.sa/ 'dough', /ma.'sa/ 'to mash, knead'), but contrast also occurs between unrelated words (e.g. /'ka.sa/ 'house', /ka.'sa/ 'to marry').

In addition to penultimate and ultimate syllables, stress also occurs on antepenultimate syllables, as the examples in (30) show.

- (30) Antepenultimate stress
- /le.'hi.ti.mo/ 'legitimate'
- /te.'le.po.no/ 'telephone'
- /'ra.ba.nos/ 'radish'
- /'pos.po.ro/ 'match'
- /'ul.ti.mo/ 'final'

Stress does not occur before the antepenultimate syllable. There may be secondary stress in longer words such as /res.pon.si.bi.li.'dad/ 'responsibility' or /ben.ti.la.'dor/ 'electric fan'. In the field data, the /e/ in /ben.ti.la.'dor/ and the /o/ in /res.pon.si.bi.li.'dad/ do not seem to be as reduced as other unstressed vowels are, but this matter should be investigated acoustically in future studies.

Vowels have longer duration in stressed syllables, as results from the word list task show (see Chapter 6). For example, in Figure 8 the first /a/ in *kása* 'house' has longer duration than the first /a/ in *kasá* 'to marry'. In citation form, there is a pitch peak associated with the stressed syllable, as the blue F0 contours in Figure 8 show. The figure

also shows examples of phrase-final lengthening. Even though the second /a/ in *kása* ‘house’ is unstressed, it is longer in duration than the stressed /a/ in that word.

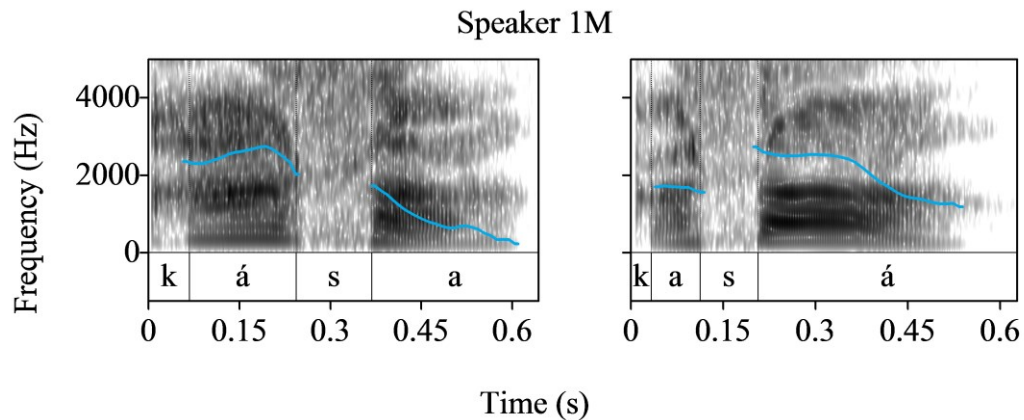


Figure 8. Lexically contrastive stress in *kása* ‘house’ and *kasá* ‘to marry’, taken from the word list of one speaker

Cavite Chabacano words almost always preserve the stress pattern of their language of origin, e.g. /'a.gi.la/ ‘eagle’ (< Sp. /'a.gi.la/) and /'da.ʔiŋ/ ‘dried fish’ (< Tag. /'da.ʔiŋ/). The only exceptions in the word list task are /kar.'sel/ ‘jail’ (< Sp. /'kar.sel/) and /gu.'laj/ ‘vegetable’ (< Tag. /'gu.laj/). German (1932:9) also gives a short list of words that have different stress from their Spanish and Tagalog words of origin. The full list is reproduced in (31) and (32), using German’s spellings but with some accent marks added to make the different stress patterns more clear.

(31)	Tagalog	Cavite Chabacano	Gloss
	<i>tátay</i>	<i>tatáy</i>	‘father’
	<i>gúláy</i>	<i>guláy</i>	‘vegetable’
	<i>balútan</i>	<i>balután</i>	‘package’
	<i>sankálan</i>	<i>sancalán</i>	‘chopping block’
	<i>sampáyan</i>	<i>sampayán</i>	‘clothesline’
	<i>mapaklá</i>	<i>mapácla</i>	‘bitter’
	<i>balikutsá</i> ⁴⁵	<i>balicócha</i>	‘taffy’

(32)	Spanish	Cavite Chabacano	Gloss
	<i>éllos</i>	<i>ilós</i>	3SG pronoun
	<i>nosótro</i> s	<i>nisós</i>	1PL pronoun

German (1932:9) has fewer examples of Spanish-based than Tagalog-based words that differ from their original stress pattern, which at first seems odd given that Tagalog is the substrate. However, it is possible that dialectal variation in Tagalog may account for the different stress patterns found in these Cavite Chabacano forms. Soberano (1980:34-35) describes Marinduque Tagalog (a Southern Tagalog dialect) as normally accenting the last syllable of CVCCVC forms, but with some variation. German’s first five Tagalog examples in (31) all end in CVC syllables, so they could be conforming to a similar pattern, but without more detailed studies about variation in Tagalog, including in Cavite,

⁴⁵ German (1932:9) classifies *balikutsa* as a Tagalog word, but according to English’s (1986) Tagalog dictionary it is originally from Spanish. *Melcocha* in Spanish is also a type of candy.

it is hard to say for certain whether this is the case. As for the Spanish-origin examples in (32), these pronouns would have formed during an early stage of contact. Besides the stress differences, there are also other phonological differences between these Spanish and Cavite Chabacano forms that are not normally found in most Cavite Chabacano words (eg. raising the stressed /e/ in *ellos* to /i/ in *ilos*).

Cavite Chabacano words in this corpus and in the *Diccionario Chabacano* (Asociacion Chabacano 2008) consist of up to six syllables. (33) shows examples of words ranging from one to six syllables, with different stress patterns.

- (33) One syllable: /'bo/ 2SG (intimate)
 /'rej/ 'king'
- Two syllables: /'je.lo/ 'ice'
 /ta.'kon/ 'heel'
- Three syllables: /'ra.ba.nos/ 'radish'
 /es.'tre.ʎa/ 'star'
 /ti.ni.'dor/ 'fork'
- Four syllables: /te.'le.po.no/ 'telephone'
 /a.ba.'ni.ko/ 'fan'
 /ben.ti.la.'dor/ 'electric fan'
- Five syllables: /par.ma.'sew.ti.ka/ 'pharmacy'
 /es.kan.da.'lo.so/ 'scandalous'
 /di.sa.pa.re.'si/ 'disappear'

Six syllables: /es.ta.bli.si.'mjen.to/ 'establishment'
 /an.tro.po.lo.'hi.ja/ 'anthropology'
 /res.pon.si.bi.li.'dad/ 'responsibility'

The substrate Tagalog uses reduplication extensively for various purposes (Schachter & Otones 1972). Some reduplication is found in Cavite Chabacano as well, for example, for expressing intensification or plurality (e.g. *gwápa* 'pretty' → *gwapang-gwápa* 'really pretty' and *kósa* 'what' → *kosa-kósa* 'what-PL'). In such cases, it is possible for both elements to be stressed, but in fast speech usually only the second element is stressed. The same is true of compound words or phrases such as *buska la bída* 'occupation' (literally 'search for life').

5.6.3 *Phrase level prosody*

Cavite Chabacano is similar to its substrate in how it marks prominence at the right edge of the phrase (Gonzalez 1970, Anderson 2006). The boundary is demarcated through phrase-final lengthening, and it is common for phrase-final words to have a high rise in the last syllable, whether or not that syllable is stressed. These characteristics can give the impression to non-native speakers (e.g. English-speaking fieldworkers and coding assistants) that the stress has shifted in comparison to the original Spanish source. However, it is important to distinguish between lexical stress and post-lexical accent.

Figure 9 shows examples of the word *plátanos* ‘banana’ from one speaker in three different prosodic contexts: citation form from the word list task, phrase-medial position in a story retelling task, and phrase-final in a story retelling task.

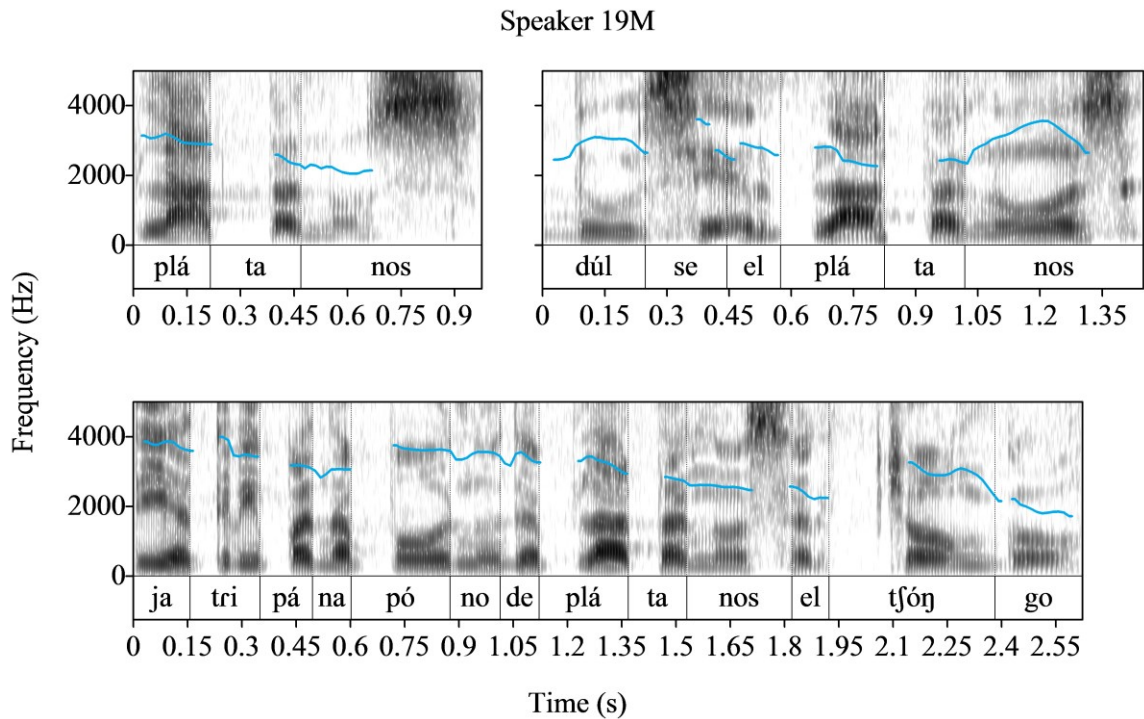


Figure 9. *Plátanos* ‘banana’ in three prosodic contexts: citation form (upper left), phrase-final in *Dúlse el plátanos* ‘The banana was sweet’ (upper right), and phrase-medial in *Ya tri pá na pó no de plátanos el chónngo* ‘The monkey climbed the banana tree’

In citation form (upper left), *plátanos* has a pitch peak on the stressed syllable. However, when *plátanos* is phrase-final in the longer utterance *Dúlse el plátanos* ‘the banana is sweet’ (upper right), the final syllable is marked by a rise-fall and the final

vowel is longer in duration. The bottom example shows that phrase-medially, there does not appear to be much pitch movement on the stressed syllable of *plátanos*, and the final vowel of the word is not lengthened because it is not at the phrasal boundary. The high rise at the end of *Dúlse el plátanos* in Figure 9 does not occur at the end of every phrase; for example, *chónggo* ‘monkey’ in the bottom example has the same phrase-final lengthening, but there is a pitch accent on the stressed penultimate syllable and there is no final rise. Elsewhere in the narrative, it does have the final rise. Further investigation is needed in both Cavite Chabacano and Tagalog to uncover what pragmatic meanings are associated with the different tunes. According to Sippola (2010:65), final rises in declarative utterances can be used for emphasis or to indicate continuation in Ternate Chabacano.

Phrase-final lengthening affects some consonants as well as the vowels. The continuant consonants /s/, /m/, /n/, /ŋ/, /l/, /w/, and /j/, as well as the glottal stop /ʔ/ for a few speakers, are often lengthened at the end of a phrase. Glottal stops can be “lengthened” when they are realized as creaky voice. Figure 10 shows an example of phrase-final lengthening of /s/ in the word *bos* ‘2SG (intimate)’, taken from the story reading task of one speaker.

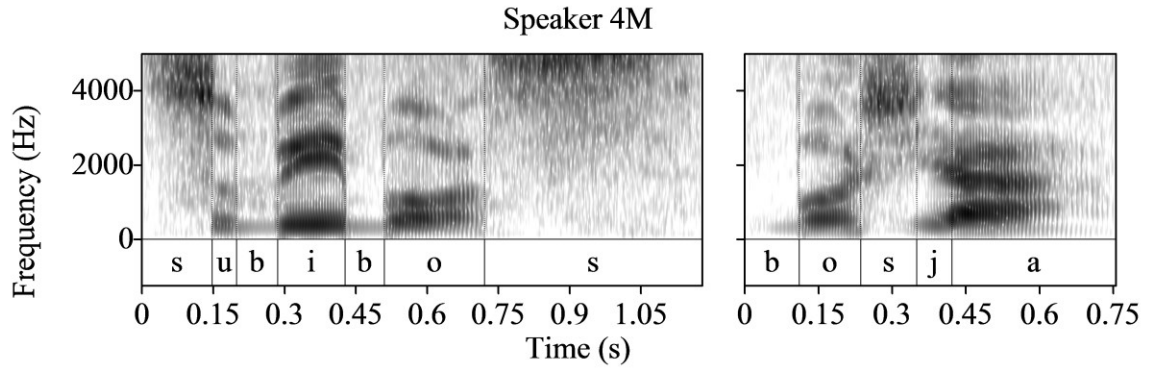


Figure 10. Phrase-final lengthening of /s/ in the phrase *Subi bos* ‘You climb’, compared to /s/ phrase-medially in *Bos ja* ‘You (climb it) already’

In this example, /s/ is 0.46 seconds in phrase-final position in *Subi bos* ‘You climb’, but only 0.11 seconds phrase-medially in the phrase *Bos ja* ‘You (climb it) already’. In citation form during the word list task, it was common for many speakers to produce final /s/ as long as one full second. The phrase-final lengthening of /s/ is also very noticeable in spontaneous speech.

As discussed in 5.5.1, vowels are sometimes glottalized at the beginning of a phrase. While this glottalization has been interpreted as the presence of a glottal stop phoneme in some studies on Tagalog and other Chabacano varieties, I follow Ing (1968) and others in interpreting it as part of the realization of the vowel that only occurs phrase-initially. It is not always present, and its presence is not contrastive. Initial vowel glottalization may be interpreted as articulatory strengthening at the beginning of the prosodic domain (Dilley et al. 1996).

5.7 Discussion

Sections 5.4-5.6 gave a broad overview of the vowel inventory, consonant inventory, and the prosody of Cavite Chabacano. In this section, I summarize some of the main findings about Cavite Chabacano phonology, including dialectal variation in the system, and describe how the findings compare to the previous studies of Cavite Chabacano and other Chabacano varieties. I also provide a diachronic overview of how Cavite Chabacano phonology developed and was influenced by its input languages over time, summarizing the various historical points brought up throughout the phonological description.

5.7.1 Summary and comparison to previous studies on Cavite Chabacano

As previous descriptions of Cavite Chabacano have mentioned (German 1932, Miranda 1956, Ramos 1963), this language has a 5-vowel system, with some raising of /e/ and /o/ when they are unstressed. Chapter 6 provides more precise phonetic analysis to support this claim, and also investigates other linguistic and social factors that affect the realization of the mid vowels. Ramos' (1963) description seems to indicate that Cavite Chabacano does not have unstressed vowel reduction and that the vowels are of equal duration regardless of their stress or position, perhaps because she is making an impressionistic comparison to English, which has very noticeable unstressed vowel reduction in terms of vowel quality and duration. However, the data for this study indicate that Cavite Chabacano does reduce unstressed vowels, much like the substrate

Tagalog. The vowels are also lengthened in phrase-final position, regardless of stress. Phonetic evidence for these claims is provided in the following chapter.

Ramos (1963) includes 17 consonants in the Cavite Chabacano inventory, but 20 were identified in Section 5.5. The three additional consonants discussed in this chapter are /ʎ/, /ɲ/, and /ʔ/. Ramos (1963) did not discuss /ʔ/ in her study, and German (1932) considered it to be a feature of Cavite Chabacano stress rather than a segmental feature, but I follow descriptions of Tagalog and other Chabacano varieties (e.g. Schachter & Otones 1972, Ing 1968) in considering it a consonant phoneme. Ramos (1963) considered the palatal nasal and lateral to be consonant clusters of /l/ and /n/ with /j/, but phonetically they seem to be true palatal consonants that have the same phonological distribution as their Spanish counterparts, although the pronunciation of /ʎ/ can vary. With respect to rhotics, the phonological description presented in this chapter agrees with Ramos (1963) that there are two distinct phonemes, but she describes them as a retroflex and trill, whereas I consider them to be a tap and trill as in Spanish. The approximant [ɹ] can occur as a variant of /r/ in coda position, but it is not used by all speakers.

German (1932) made some observations that were found to be still true of Cavite Chabacano today. For example, there is still some deletion of coda /s/, as Lipski (1986) has also described. However, as Lipski observes, it is a vestigial feature and not a productive process that consistently affects /s/ in coda. German's (1932) observation that "silent" <h> in words like *harina* 'flour' is sometimes pronounced and sometimes not is also still true of Cavite Chabacano today. However, his observation that /r/ before /l/ or /n/ is assibilated or aspirated was not found in the data for this study.

Cavite Chabacano prosody was already fairly well described at the syllable and word levels, but not at the phrase level. As Ramos (1963) also wrote, Cavite Chabacano has contrastive lexical stress and allows consonant clusters with liquids and glides. In section 5.6.3, I also provided some descriptions of phrase level prosodic features. Vowels and continuant consonants are lengthened in phrase-final position. As the vowels are lengthened, they become breathy. Phonetic evidence of the phrase-final lengthening of the vowels is shown in Chapter 6. In phrase-initial position, vowels may be glottalized, but this glottalization is not always present. Lexical stress is marked by longer duration as well as a pitch peak in citation form. In longer utterances, stressed syllables do not always have a pitch movement associated with them, and there is often a high rise at the end of the phrase regardless of stress. These final rises are likely dependent on pragmatic context. The phonetics and pragmatics of these intonational features of Cavite Chabacano, as well as the other prosodic boundary effects described above, should be further investigated in future studies.

5.7.2 Phonological variation in Cavite Chabacano

Sections 5.4 and 5.5 mentioned several points of phonological variation in Cavite Chabacano. Some of the variation has to do with dialectal differences between the districts of Caridad and San Roque, which were officially separate towns during the late 1800s (see Chapter 2). All previous descriptions of Cavite Chabacano note the raising of the mid vowels /e/ and /o/, especially in phrase-final position. German (1932), Miranda (1956), and Romanillos (2006) all attribute this feature to the San Roque dialect in

particular. The acoustic analysis in Chapter 6 shows that both Caridad and San Roque have mid vowel raising in different unstressed positions, but San Roque does have more raising compared to Caridad, especially for phrase-final /e/. Chapter 7 also shows that this variation in the vowel system is something that is highly salient to Caviteños.

Another dialectal difference between Caridad and San Roque that was found in this study is the pronunciation of the trill. Both dialects have the tap/trill distinction, but some Caridad speakers have a preaspirated tap [hr̩] or trill [hr̩r̩] that occurs in the same environments as the regular trill. As mentioned in 5.5.3, not all Caridad speakers have this feature, so it is possible that its use may be related to some other social factor such as class or neighborhood, but this speculation should be confirmed by a future study. Most of the participants with preaspirated trills were from the Caridad *barrio* ‘neighborhood’ of Calumpang.

There was one item from the word list task that Caridad participants consistently pronounced differently compared to other participants. The word *páharo* ‘bird’ had only two syllables for many Caridad speakers and was pronounced as [ˈpa.ro] or [ˈpa.hro]. Further study is needed to show if this is merely a lexical difference from San Roque, which retains all three syllables in that word, or a more systematic difference in terms of frequency of vowel deletion. Overall, vowel deletion in the word list task was not very common, but there was occasional deletion of the first vowel in *estrellas* ‘star’ and the first or second vowel of *chocolate* ‘chocolate’. As German (1932) observed, Cavite Chabacano historically tended to delete the initial unstressed vowels of many Spanish words (e.g. *cabá* ‘to finish’ < Sp. *acabar*).

There is other phonological variation in Cavite Chabacano that does not seem to be related to district or neighborhood. For example, there were participants from both districts who had some alternation of [r] and [ɾ] in coda position, and the same was true for alternation between coda [r] and [ɾ]. There were also people from both districts who pronounced /h/ in words like *harina* ‘flour’, which is usually [a'rina] in most modern Spanish dialects. Further study is needed to determine if these variables are linked to factors such as age or social class.

People in Cavite often refer to there being different “intonations” or accents in different parts of the city. Whether the “intonation” they refer to is really related to intonational or other prosodic differences between dialects is unclear at this point, but as Chapter 7 discusses, the participants of the study perform imitations of these different accents that emphasize intonation, rhythm, and mid vowel raising. How well the comments about “intonation” or the imitations of it align with actual linguistic production is a matter for future study.

5.7.3 *Comparison to other Chabacano varieties*

Overall, the phonological inventories of the different Chabacano varieties are similar. All varieties of Chabacano have 5-vowel systems (Sippola 2011, Ing 1968, Riego de Dios 1989, Ramos 1963), but Ternate and Cavite Chabacano seem to have more mid vowel raising in comparison to the Mindanao varieties. As mentioned in 2.5.2, there are some differences in how the consonant inventories of the Chabacano varieties have been described. Table 9 summarizes which phonemes are found in all varieties, and highlights

which phonemes have been described as occurring only in certain varieties. Parentheses are used to indicate phonemes that have not been described as occurring in all varieties.

	Bilabial	Dental/ Alveolar	Post-alveolar	Palatal	Velar	Glottal
Stop	p b	t d			k g	ʔ
Nasal	m	n		(ɲ)	ŋ	
Trill		(r)				
Tap		r				
Fricative		s				h
Affricate			tʃ/(tɕ) (dʒ/dʒ)			
Approximant				j	w	
Lateral approx.		l		(ʎ)		

Table 9. Consonant phonemes in Cavite Chabacano, Ternate Chabacano (Sippola 2011), Zamboanga Chabacano (1968), and Cotabato Chabacano (Riego de Dios 1989)

The consonants that are not considered to be phonemes in every Chabacano variety are /ɾ/ (as distinct from /r/), the palatals /ʎ/ and /ɲ/, and /dʒ/. Parentheses are also included around /tɕ/ and /dʒ/ because Ing (1968) describes them as occurring in Zamboanga Chabacano, but they are equivalent to /tʃ/ and /dʒ/ in the other descriptions. Cavite Chabacano is the only variety that has been described as preserving the tap/trill distinction of Spanish (Ramos 1963, and confirmed by the present study). All varieties of Chabacano except for Ternate have been described as having /ʎ/ and /ɲ/. Only Cotabato and Zamboanga Chabacano are reported to have /dʒ/ or /dʒ/ as a phoneme. Overall,

Cavite Chabacano shares mid vowel raising in common with Ternate Chabacano, but it seems to share more with the Mindanao creoles in terms of its consonant inventory.

Some of the differences between Chabacano descriptions may be attributed to different types of analyses rather than to actual phonological differences between the varieties. For example, /dʒ/ in the Mindanao varieties occurs in loanwords and the sound is otherwise an allophone of /d/ before /i/, which is also the case in the Manila Bay varieties. However, Sippola (2011), Ramos (1963), and I have not included it as part of the phonemic inventory in our analyses. Similarly, Sippola (2011:50-51) does not consider /ɲ/ to be a phoneme in Ternate Chabacano partly because of its limited distribution (as well as its frequent realization as [nj]). In contrast, I have chosen to include it as a Cavite Chabacano phoneme because the distribution matches that of Spanish, which is also rather limited.

The Chabacano varieties are also similar to each other in terms of certain allophonic patterns. Preaspirated [hr] as a variant of /r/ and the assimilation of nasals to the following place of articulation are found in all Chabacano varieties (Ing 1968, Riego de Dios 1989, Sippola 2011). Coronal palatalization before /j/ has also been described in Zamboanga and Ternate Chabacano (Ing 1968, Sippola 2011) as well as in the Cavite Chabacano description in this chapter. The Chabacano varieties also all seem to have similar syllable structure, stress patterns, and perhaps some post-lexical prosodic features. For example, Ing (1968:187-188) describes Zamboanga Chabacano nonfinal stressed syllables as being “neutralized” in utterances longer than one word, with only the final

stressed syllable in the utterance usually receiving a post-lexical accent. This description seems to match Cavite Chabacano as well, although further study is needed.

One thing to keep in mind is that while all of these phonological descriptions are detailed, they are still relatively coarse-grained, and none except for this study have incorporated phonetic methods. Ongoing research on folk perception among Ternate, Cavite, and Zamboanga Chabacano (Sippola & Lesho 2013) indicate that speakers of the different varieties believe each other to have different “intonations” or accents. It is still unclear what the linguistic basis for these folk beliefs might be, but future studies using comparative phonetic methods may reveal some differences between the Chabacano varieties even though they are very similar to each other at the phonological level. Given their different histories (e.g. the isolation of Ternate until the 1800s, and the different substrate/adstrate languages in Mindanao), it would not be surprising to find fine-grained phonetic differences between the Chabacano varieties.

5.7.4 Diachronic development under superstrate and substrate influence

There is no direct evidence of what Cavite Chabacano phonology was like immediately after creole formation, but diachronic evidence can be used to show how it developed over time and what the superstrate Spanish and substrate Tagalog contributed to the system during different periods. For the most part, modern Cavite Chabacano words preserve the phonological features and patterns of their languages of origin at the segmental and prosodic levels, which indicates a high level of access to both Spanish and Tagalog. Historically, Caviteños were fluent in Chabacano, Spanish, and Tagalog before

(and for some time after) the American colonization. However, there is some phonological variation that hints at what the language was like at earlier points, e.g. mid vowel raising and certain features that show the different layers of contact with Mexican and Peninsular Spanish. German (1932) and Lipski (1986) have already examined some of these diachronic aspects of Cavite Chabacano phonology, which I elaborate on below.

There is phonological evidence of substrate transfer during an early period of the contact situation. At that point, as in second language acquisition (Flege 1995, Best 1995), Tagalog/Chabacano speakers would not yet have restructured their phonological systems to accommodate new contrasts from Spanish, and would have assimilated foreign sounds to the native categories that they were perceived to be similar to. For example, German (1932) gives some examples of some Spanish words with consonant clusters in Spanish that had vowel epenthesis in Chabacano (e.g. *tarambía* ‘streetcar’ < Sp. *tranvía*), similar to what is found in some rural Tagalog dialects that have had less contact with Spanish and English compared to Manila Tagalog (Cena 1979).⁴⁶ There is variation in the vowel system that is also indicative of substrate influence, with possible reinforcement from Mexican Spanish.

German (1932) gives several examples of Cavite Chabacano words with vowels that do not match their Spanish origin, mostly in unstressed position (see section 5.4.1). There are examples of Spanish unstressed /a/ becoming /e/, /i/, or /o/, /e/ becoming /o/ or /a/, /i/ becoming /a/, and /o/ becoming /i/ or /e/ in different Cavite Chabacano words. For example, *estillas* ‘splinter’ comes from Spanish *astilla*, and *istiones* or *estiones* ‘oyster’

⁴⁶ *Tranvía* was elicited as part of the word list task in this study. Modern Cavite Chabacano speakers no longer insert an epenthetic vowel as German (1932) described.

comes from Spanish *ostión* ‘oyster’. These seemingly sporadic substitutions may indicate that L1 Tagalog speakers initially had difficulty perceiving the unstressed vowels of Spanish, but at a later point they acquired the distinctions between these categories. German’s (1932) examples also seem to indicate that Tagalog speakers may have misperceived Spanish stress patterns during an early period of contact (e.g. *ilós* < Sp. *éllos*).

There are also examples of more systematic equivalence of Spanish /e/ and /o/ to the /i/ and /u/ categories in Cavite Chabacano. The Spanish 5-vowel system may have had a more dispersed vowel space compared to the 3-vowel Tagalog system, according to Adaptive Dispersion Theory (Guion 2003, Liljencrants & Lindblom 1972, Lindblom 1986), so the Spanish mid vowels may have overlapped perceptually with the high vowels of L1 Tagalog speakers. Historically, this is why some words, including verbs that have their origin in Spanish infinitive forms, always have /i/ and /u/ instead of Spanish /e/ and /o/, regardless of stress (e.g. /ku.'mi/ ‘to eat’ < Sp. *comer*).

It may seem odd that verbs have invariantly high vowels stemming from Spanish /e/ and /o/ while other classes of words have more variable mid vowel raising, but this outcome is likely a result of the word order and prosody of Cavite Chabacano. The word order is VSO, so verbs are usually nonfinal in the phonological phrase. The phrase-final position is prosodically prominent in Cavite Chabacano, so perhaps the vowels of nonfinal syllables were initially difficult to perceive. This raising of nonfinal mid vowels is a clear example of substrate influence. In Modern Tagalog, even though there are now five vowel categories, native words spelled with word-final <e> and <o> generally only

have mid vowel realizations in phrase-final position, and are realized as high vowels in nonfinal position (e.g. *aso* ‘dog’ [aso] phrase-finally, but [asu] nonfinally).

Cavite Chabacano eventually gained the contrasts between the mid and high vowels. However, after the initial creolization period, subsequent input from Spanish *-er* verbs could have been analogized to the *-i* pattern established in Chabacano. The /e/ from *comer* and other Spanish *-er* verbs was raised even though it is stressed, and mid vowel raising in Cavite Chabacano usually only affects unstressed vowels in other types of words.

Modern evidence from Zamboanga Chabacano shows that a similar process of mid vowel raising takes place among Visayan speakers. Unlike modern Tagalog, Cebuano and other Visayan languages still have 3-vowel systems (Reid 1973). According to Ing (1968:75), Visayan people speaking Chabacano “have great difficulty in distinguishing /i/ from /e/ and /u/ from /o/ because of the workings of the native Fil. [Filipino] trivocalic system”. To illustrate this point, he gives /o'le/ → [u'li] ‘to smell’ as an example, which has both mid vowels raised as in the /ku.'mi/ < Sp. *comer* ‘to eat’ example above.

Other similar examples of vowel substitution and mid vowel raising can also be found in Tagalog loanwords from Spanish. Evidence from Tagalog indicates that there was an initial period of contact with Spanish when unstressed vowels in Spanish loanwords were misperceived and substituted for another vowel, e.g. /e/ > /u/ in Spanish *enano* ‘dwarf’ > Tagalog *unano*. Spanish loanwords in Tagalog also had mid vowels that were raised to assimilate to the original 3-vowel system. For example, *kumusta* ‘how are

you?’ (< Sp. *cómo está*) has /u/ in place of Spanish /o/. Other borrowings from Spanish retain the mid vowels when they are in stressed position, e.g. *mesa* ‘table’ or *botas* ‘boots’, which contrast with Tagalog *misa* ‘Mass’ (< Sp. *misa*) and *butas* ‘hole’.

One way that Spanish loanwords in Tagalog differ slightly from Spanish-origin words in Cavite Chabacano is in how phrase-final unstressed mid vowels were assimilated. In Tagalog, Spanish loanwords like *sipilyo* ‘brush’ (as well as the *unano* example above), retained the unstressed final /o/ because Tagalog already had an internal pattern of allophonic phrase-final high vowel lowering (e.g. *asu* > *aso* ‘dog’) before Spanish contact (Reid 1973), so Spanish phrase-final /o/ or /e/ would have been easy for Tagalog speakers to perceive and pronounce. As discussed in Chapter 2, evidence from early Spanish-era texts (e.g. Blancas d San Jose 1610 and the *Doctrina Christiana* in 1593), as well as modern phonetic evidence (Gonzalez 1970), also show some asymmetry in how the mid vowels are lowered. Lowering from /u/ to /o/ seems to have occurred earlier, or to be more complete, compared to lowering from /i/ to /e/. In contrast, Cavite Chabacano seems to have been unaffected by this historical change in Manila Tagalog. For example, ‘purple yam’ is *ubi* in Cavite Chabacano and *ube* in the modern Tagalog of Manila and Cavite City. Cavite Chabacano also has *tomatis* ‘tomato’ instead of Spanish *tomate*, with the final vowel raised to /i/. These differences from modern Manila Tagalog seem to indicate that although the Tagalog of Cavite City is now quite close to the Manila standard, the original Cavite Chabacano substrate was more similar to other Southern Tagalog dialects, which retained conservative 3-vowel systems without phrase-final high vowel lowering (Soberano 1980, Manuel 1971).

As discussed in 2.5.3, Mexican Spanish was the main superstrate influence on Cavite Chabacano until Mexico became independent in 1821. Because central dialects of Mexican Spanish have been documented to have unstressed mid vowel raising (Boyd-Bowman 1952, Lope Blanch 1963), it is also possible that the Mexican input into Cavite Chabacano was reinforcing the tendencies of the substrate 3-vowel system. After Mexican independence, however, Peninsular Spanish came to be the main dialect that was influential in the Philippines (Lipski 1986). If Cavite Chabacano speakers were not already exposed to a Spanish dialect that did not raise unstressed mid vowels, they would have been then. As a result, modern Cavite Chabacano has variation in whether mid vowel raising takes place, or to what extreme the mid vowels are raised.

Variation as a result of the blending of Mexican and Peninsular features is also evident in other aspects of Cavite Chabacano. Besides the mid vowel raising pattern that may possibly have been present in the Mexican Spanish input, Cavite Chabacano also has several features of regional Spanish that are generally considered nonstandard and are often stigmatized (Penny 2000), including coda /s/ aspiration or deletion, pronunciation of “silent” <h>, preaspirated trills, neutralization of [l] and [r] in coda, and mid vowel raising. However, the varieties of Spanish present in the Philippines during the mid to late 1800s did not have these stigmatized variants. Lipski (1987) describes non-creolized Philippine Spanish as “characteristically refined, aristocratic, precise, and linguistically conservative, with none of the popular, regional and rural forms which are essential ingredients of PCS [Philippine Creole Spanish] dialects, and which are widespread in the Spanish dialects of Latin America” (1987:39). The Chinese mestizos and other Filipinos

who rose to economic and political prominence during the 1800s (see Chapter 2), including many Caviteños, would have spoken this Peninsular-influenced variety of Spanish. The influence on Cavite Chabacano is evident phonologically because although the creole still retains many of its nonstandard Mexican Spanish features, they are no longer very frequent or productive (Lipski 1986). The presence of /ʎ/ in Cavite Chabacano can also be attributed to 19th century Peninsular influence (Lipski 1986). Ternate Chabacano, in contrast, was more isolated from this influence and seems to retain more of the earlier nonstandard Mexican features.

One question that remains is that if Cavite Chabacano speakers were multilingual and exposed to the more “refined” phonological features of the Peninsular and Philippine Spanish of the 1800s, as well as the 5-vowel system of modern standard Tagalog, why does mid vowel raising persist in the language today? Lipski (1987) describes Philippine Spanish as having some unstressed vowel reduction, but does not mention mid vowel raising. The acquisition of /ʎ/ by Cavite Chabacano speakers indicates a high level of fluency in the Peninsular variety of Spanish and decrease in features like coda /s/ aspiration seems to indicate a move toward the standard.

In addition, Tagalog phonology was also significantly influenced by Spanish throughout the colonial period, and the dialect spoken in Cavite City is now close to that of Manila, with 5 distinct vowels and an allophonic pattern of phrase-final high vowel lowering. The continued phrase-final mid vowel raising in Cavite Chabacano is therefore not the result of influence from bilingualism in Modern Tagalog. Rather, it is the retention of a substrate feature from Old Tagalog.

Linguistically, there is no reason that Cavite Chabacano speakers could not have acquired standard Spanish vowel patterns. In fact, many Caviteños do pronounce /e/ and /o/ in a standard Spanish-like way, without much raising. However, the mid vowel raising pattern is still found in both dialects of modern Cavite Chabacano and is associated with the San Roque dialect in particular. Uncoincidentally, the results of the perceptual dialectology task conducted during fieldwork indicate that the San Roque dialect has more prestige. The explanation for the initial development of mid vowel raising in Cavite Chabacano is linguistic, based on principles of perception and production in second language acquisition, but the explanation for its persistence despite the standardization of other phonological features is social, as Chapter 7 will show.

5.8 Summary

This chapter had several goals: to give a broad description of the phonology of Cavite Chabacano at the segmental and prosodic levels, to compare the results to previous findings about the phonology of Cavite Chabacano and other Chabacano varieties, and to give a diachronic overview of how the phonology of the language was influenced by different varieties of Spanish and Tagalog over time. The description of the Cavite Chabacano phonological system expanded on previous work by German (1932) and Ramos (1963), and clarified some points about the segmental inventory and prosodic features that were not previously well described. The description of the vowel system in terms of its synchronic and diachronic features also sets the stage for the acoustic analysis

in Chapter 6 and the study of the folk perception of variation in Cavite Chabacano phonology in Chapter 7.

Chapter 6: Acoustic Analysis of the Vowel System

6.1 Introduction

This chapter focuses on the analysis of the Cavite Chabacano vowel system, using two of the tasks described in Chapter 4, the word list task and the carrier phrase task. There are three main goals in the analysis of these two tasks. The first goal is to give an overview of the phonetics of the Cavite Chabacano vowel system and describe how each of the five vowels is conditioned prosodically or according to other linguistic factors. The second is to investigate dialectal differences between the two main districts of the city, Caridad and San Roque, in how the vowels pattern acoustically and phonologically. Third, I discuss the role of superstrate and substrate influence in the vowel system and prosody of Cavite Chabacano by comparing the results of these tasks with previous findings about the vowel system and the prosody of Spanish and Tagalog.

As discussed in Chapters 2 and 5, Cavite Chabacano has previously been described as having five distinct vowels, /i, e, a, o, u/, with /e/ and /o/ often being raised to [i] and [u] (German 1932, Miranda 1956, Ramos 1963, Romanillos 2006). This mid vowel raising has been associated with the San Roque district in particular (German 1932, Miranda 1956, Romanillos 2006). Romanillos (2006:10) describes the Caridad and

Cavite Puerto dialects of Cavite Chabacano, as well as Mindanao Chabacano, as sounding more faithful or closer to Spanish compared to San Roque because they do not have this mid vowel raising pattern.

While Ramos claimed that the mid and high vowels alternate in free variation regardless of stress or syllable position (1963:63-66), German described mid vowel raising as occurring often in pre- and post-tonic position (1932:12-13), indicating that prosodic factors play an important role in how the vowels are realized. Expanding upon these descriptions, the overview of the vowel system in this chapter includes detailed analysis of the acoustic properties of the vowels in different stress conditions and syllable positions within the word or phrase. The properties under investigation include the F1, F2, and duration of the vowels, and the analysis also includes measures of vowel dispersion and vowel category overlap in order to describe how the vowel categories are situated in relation to each other in the vowel space. Comparison of how the vowels pattern phonetically and phonologically in each district shows how the varieties of Cavite Chabacano spoken in the San Roque and Caridad districts are similar to each other and how they differ.

Sections 6.2-6.4 focus on the word list task, and Sections 6.5-6.7 focus on the carrier phrase task. Section 6.8 is a general discussion of the results and implications of both tasks.

6.2 Word list task: Methods

As described in Chapter 4, this task was used to collect data in one-word utterances in order to describe how the vowel system and the prosody of Cavite Chabacano interact at the word level. Recording conditions were the same as described in the general overview of field methods (Chapter 4.2).

6.2.1 *Participants*

There were 42 participants in this task: 21 from San Roque (11 men, 10 women), 17 from Caridad (8 men, 9 women), and 4 from San Antonio (1 man, 3 women). The statistical analysis in this chapter focuses only on the 38 participants from San Roque and Caridad. There are too few San Antonio participants to include in the main statistical analysis, but some description of their data will be included in the presentation of the results (section 6.3).

The age range of the participants was 20-87 years old. Table 10 summarizes the age of the participants by district, grouped into five different age brackets: 20-49, 50-59, 60-69, 70-79, and 80-87 years old. The participants under age 50 were grouped together in the table because there were so few of them. As the table shows, all but six people were above age 50.

District	20-49	50-59	60-69	70-79	80-87	Total
Caridad	4	8	2	1	2	17
San Roque	1	7	3	8	2	21
San Antonio	1	0	0	0	3	4
Total	6	15	5	9	7	42

Table 10. Participant ages by district in the word list task

Table 11 summarizes the highest completed education levels of the participants from each district. The education levels ranged from elementary to graduate school, but most participants had a college or high school education level.

District	Elementary	High school	College	Graduate	Unknown	Total
Caridad	0	3	13	0	1	17
San Roque	1	7	11	2	0	21
San Antonio	3	0	1	0	0	4
Total	4	10	25	2	1	42

Table 11. Participant education backgrounds (highest level completed) by district in the word list task

In addition to Chabacano, all participants also speak Tagalog fluently, and all except one report that they are fluent in English. Three participants report fluency in Spanish, and five report knowing some Spanish but do not call themselves fluent. Many of the other participants took Spanish classes in college when they used to be required, but they said that they do not have any proficiency in the language.

6.2.2 Elicitation

The elicitation was done using pictures on PowerPoint slides rather than through a written word list. Participants were shown 120 slides, each showing a different object, action, or color. I used stock photos from the internet with plain backgrounds in order to make identifying the objects easier for the participants, and when possible I chose the photos that would be the most familiar in Philippine culture. Participants were asked to give one-word responses and repeat each word twice, pausing in between so as to ensure that the words belonged to separate phrases. Examples were given at the beginning of the task to show how to pause between each word, and the instructions were repeated when necessary.

Responses to the pictures were only analyzed if they were isolated words that had a pause of at least 10 ms before and after them, in order to ensure that they were not part of a larger phonological phrase. For example, some pictures elicited compound words or phrases such as *leche flan* ‘flan’ (lit. ‘milk flan’) and *koloraw de webos* ‘yolk’ (literally ‘red of egg’). Vowel tokens in such phrases were not analyzed because it was not clear if the stress patterns would match those of the one-word utterances aimed for in the study. In addition, it proved difficult to elicit any of the verb forms without an aspect marker preceding the target word, e.g. *ta tapá* ‘is covering’ instead of the bare form *tapá* ‘cover’, or *di kasá* ‘will marry’ instead of *kasá* ‘marry’. However, eliciting verbs was necessary in order to increase the number of words with ultimate stress. In these cases, I coded the vowel tokens from the target word but did not use the vowel of the aspect marker, in order to avoid having several repeated vowel tokens from these grammatical markers.

The elicitation process did not yield exactly 120 lexical items per speaker because sometimes they had more than one response to what was shown in the picture (e.g. both *kalaboso* and *preso* for ‘jail’), and occasionally they did not know or remember the Chabacano word and provided a Tagalog or English response instead.⁴⁷ In total, after discarding tokens that were unusable due to background noise, speech disfluency, or that were not produced as an isolated word as instructed, the task elicited 18,311 vowel tokens from 420 unique lexical items (see Appendix B for the full list of words). Out of the 420 lexical items, 275 of them were coded as Chabacano words (of any origin) and 145 as words from Tagalog, English, or Spanish. The words ranged from one to five syllables, but the majority had two or three syllables. The Chabacano words yielded a total of 16,892 vowel tokens. Of the Chabacano words, eight of them were monosyllabic, 137 were bisyllabic, 97 were trisyllabic, 32 had four syllables, and one had five syllables.

Out of the 16,892 vowel tokens, 15,763 monophthongs were analyzed. The remainder were excluded because they were preceded or followed by glides, as in the first syllables of [paj.'ne.ta] ‘comb’ and ['pwe.go] ‘fire’. Phonologically, these vowel and glide sequences could be considered diphthongs, as they are in Spanish, but in Chapter 5 the glides were analyzed as consonants rather than as part of the vowel, as in Tagalog. However, for the phonetic analysis, vowels in glide sequences were coded separately from other vowel tokens for two reasons. First, it can be difficult to consistently and reliably mark segment boundaries between vowels and glides. Second, it may be useful to

⁴⁷ See Chapter 5 for a more detailed description of the Chabacano lexicon and how words of different origins were classified in this study.

examine the /aj/ sequence as one unit in a future phonetic study, given that there is [aj] ~ [e] alternation that likely stems from both Tagalog and Spanish (see Chapter 5).

The distribution of these 15,763 tokens from Caridad, San Roque, and San Antonio participants across different vowel categories and prosodic conditions is summarized in Table 12. Note that Chabacano does not have preantepenultimate stress, so there are no vowel tokens in that category.

Vowel	Preantepenultimate		Antepenultimate		Penultimate		Ultimate		Total
	+stress	-stress	+stress	-stress	+stress	-stress	+stress	-stress	
/a/	0	222	290	847	1,251	1,392	501	1,920	6,423
/e/	0	194	71	226	575	65	244	527	1,902
/i/	0	11	31	363	618	615	433	271	2,342
/o/	0	106	2	444	613	363	1,034	1,519	4,081
/u/	0	52	1	72	416	352	122	0	1,015
Total	0	585	395	1,952	3,473	2,787	2,334	4,237	15,763

Table 12. Distribution of tokens by vowel category and prosodic condition in the word

list task

While this task was not designed to include equal numbers of each type of vowel, there are fairly robust numbers of tokens of each monophthong in most of the prosodic conditions. The unequal frequencies of the vowels in Table 12 follow patterns similar to those of the source languages. For example, /u/ is the least frequently occurring vowel in Spanish (Guirao & Jurado 1990), and in Tagalog it very rarely occurs word-finally due to the sound change of lowering from /u/ to /o/ in this position (Yap 1970, Schachter & Otones 1972).

6.2.3 Coding of linguistic factors

The vowels from the word list task were coded according to the linguistic factors summarized in Table 13.

Factors	Levels
Vowel category	/i/, /e/, /a/, /o/, /u/
Word	(see Appendix B for the full list)
Stress condition	Stressed, unstressed
Syllable position within the word	Nonfinal, final
Following segment	Pause Voiced Voiceless
Open syllable	Yes, no
Word origin	CS (Chabacano < Spanish) CT (Chabacano < Tagalog) CST (Chabacano < Spanish and Tagalog)

Table 13. Linguistic factors coded in the word list task

In order to account for possible conditioning of vowel quality at the segmental level, whether the following environment was voiced, voiceless, or a pause was coded for each vowel. The factors of stress condition, syllable position within the word, and whether or not the vowel was in an open syllable were used to determine the effects of prosody on how the vowels are realized. For this task, syllable position also stands in for position within the phonological phrase (i.e. whether the vowel is phrase-final or nonfinal), since this task consisted of one-word utterances. The preantepenultimate, antepenultimate, penultimate, and ultimate syllable positions were regrouped for the statistical analysis into nonfinal and final categories because of the relatively small

number of preantepenultimate and antepenultimate tokens in the different stress conditions.

Word origin was the last linguistic factor coded for in the word list task. Of the Chabacano responses to the pictures in this task, there were five categories: Chabacano words derived from Spanish (CS), Chabacano words derived Tagalog (CT), Chabacano words derived from Spanish and/or Tagalog (CST), Chabacano words derived from both Tagalog and English (CET), and Chabacano words derived from both Spanish and English (CSE). Because there are only a few words each in the CET and CSE categories, for the purpose of the statistical analysis in this chapter, CET words were grouped with the CT category and CSE words were grouped with the CS category. The different word origins were coded in order to determine whether the vowels in Spanish-origin and Tagalog-origin words follow the same phonological or phonetic patterns.

6.2.4 Coding of social factors

The coding of social factors for the word list task is summarized in Table 14. Speaker, district, gender, age, highest completed education level, and Spanish fluency level were coded for each vowel token. Spanish fluency was coded according to the self-reporting of the participants.

Factors	Levels
Speaker	42 speakers (see 6.2.1)
District	San Roque, Caridad, San Antonio
Gender	Male, female
Age	20-87
Education level (highest completed)	Elementary, high school, college, graduate school
Spanish fluency	Yes, some, no

Table 14. Social factors coded in the word list task

6.2.5 *Measurements and normalization*

Each target word in the word list task was segmented by hand using Praat (Boersma & Weeink 2013), with each vowel token being coded for stress and syllable position. This work was done with the assistance of five undergraduate interns, and inter-coder reliability was assessed using the procedures described in 6.2.6. Each of the interns had taken at least one course in phonetic analysis prior to working on the project, and they were trained to follow a standard set of segmenting procedures developed for the project, based on some of the guidelines proposed by (Turk et al. 2006). We followed Turk et al. in using oral constriction criteria rather than voicing criteria in order to identify transitions between consonants and vowels, as indicated by patterns in the spectrogram and waveform. Using these criteria meant that for vowels in phrase-final position, the end of the vowel was marked not where voicing ended, but rather where the F2 ceased to be continuous. Because phrase-final Cavite Chabacano vowels often become breathy, e.g. as in Finnish (Turk et al. 2006:17-18), it was common for the end of a word-final vowel to be marked after the end of voicing.

After segmentation, the following measurements were extracted from each vowel using a Praat script: F1 at the vowel midpoint, F2 at the vowel midpoint, and vowel duration from onset to offset. Errors that occurred during the automatic extraction of these measurements were identified and corrected using the procedures described in 6.2.6. These measurements were taken to test whether or not unstressed, nonfinal vowels are more reduced in comparison to stressed, final vowels in terms of vowel quality (F1 and F2) or duration. Ramos (1963) claimed that unstressed Cavite Chabacano vowels are not reduced, but because phonological descriptions of the substrate Tagalog include unstressed vowel reduction (Yap 1970, Schachter & Otones 1972), it is possible that this is one area where Cavite Chabacano could have substrate influence. F1 measurements were also used to investigate the previous claims of dialectal differences in mid vowel raising (German 1932, Miranda 1956, Romanillos 2006). If the previous descriptions are accurate, then the mid vowels of San Roque speakers should have lower F1 values compared to those of Caridad.

6.2.5.1 F1 and F2 measurements and normalization

For the automatic extraction of the F1 and F2 measurements in Praat, the script was set to track five formants between 50-5000 Hz for men and 50-5500 Hz for women. In order to take into account vocal tract size differences between speakers, particularly between men and women, the F1 and F2 midpoint measurements were then normalized according to Wassink's (2006) adaptation of Nearey's (1977) single log-mean procedure. In the standard Nearey single log-mean procedure, summarized in (34), the normalized

formant value F_{hijk} of a particular formant h of a token i of a vowel j for a speaker k is calculated as the grand mean \bar{G}_{hk} of all vowel formant values h for that speaker subtracted from the log-transformed frequency G_{hijk} of that token.

$$(34) \quad F_{hijk} = G_{hijk} - \bar{G}_{hk}$$

Wassink's (2006) adaptation of this normalization method differs from (Nearey 1977) in how the grand mean is calculated. Rather than taking the mean of all vowel formant values for a particular speaker across vowel categories, Wassink's adaptation first takes the mean formant values of each vowel category separately, and then uses those values to calculate the grand mean. The reason is that if there are unequal numbers of vowel tokens in each category, as is common in sociolinguistic research, the grand mean of F1 and F2 values (i.e. the center of the vowel space) is skewed toward the vowel category with the most tokens. Wassink's adaptation corrects for this skew and produces a value closer to the true center of the speaker's vowel space. In the word list task, the number of tokens in each of the five vowel categories is uneven, so I also use Wassink's adaptation of the Nearey method.

6.2.5.2 Duration measurements and normalization

The duration of each vowel was measured, as well as the duration of the whole word containing each vowel. The word duration measurement was used as part of a calculation to normalize the vowel duration measurement. Vowel duration was

normalized in order to control for variation in speech rate within or between speakers. I used the mean-centering normalization technique described by Wassink (2006:2345) because it is part of the overall procedure used for the calculation of vowel category overlap (see 6.2.5.3).

Wassink's (2006:2345) method of controlling for speech rate is to divide the duration of the vowel in relation to the duration of the whole phrase, as a first step before the normalizing procedure. However, because the phrases in the word list task are single words that do not have a uniform number of syllables or uniform syllable structure (for example, some syllables have consonant clusters or coda consonants), an additional step was taken to control for speech rate. These steps are summarized in the equations in (35)-(37). First, in (35), the estimated duration of the segments (D_{seg}) was obtained by dividing word duration (D_{word}) by the number of segments ($Segment_n$) in that word. The duration of the vowel (D_{vowel}) was then divided by the estimated segment duration (D_{seg}) as in (36). The resulting relative duration of the vowel to its segment (D_{rel}) was then used to normalize the vowel duration as in (37).

$$(35) D_{seg} = D_{word} / Segment_n$$

$$(36) D_{rel} = D_{vowel} / D_{segment}$$

$$(37) \delta_{ijk} = D_{rel_{ijk}} - \bar{D}_{rel_k}$$

The normalization procedure in (37) is similar to that used for the normalization of F1 and F2, except that the duration values are not first log-transformed. For each

speaker k , the mean duration is calculated for each of the five vowel categories, and these category means are used to calculate a grand mean across categories. The normalized duration δ_{ijk} of a particular token i of a vowel j for speaker k is calculated as the grand mean \bar{Drel}_k of all relative duration measurements for that speaker subtracted from the relative duration measurement $Drel_{ijk}$ of that token.

6.2.5.3 Vowel category overlap

The normalized F1, F2, and duration measurements were used to calculate an additional measure of vowel category overlap (Wassink 1999a, 2006). Wassink's (2006) Spectral Overlap Assessment Metric (SOAM) is used to compare to the extent to which the mid and high vowel categories overlap in the Caridad and San Roque dialects of Cavite Chabacano. This metric can be used to model the vowel space in two dimensions (F1 x F2) or three (F1 x F2 x duration). Normalized formant and duration means are used to calculate the center of each vowel category, and ellipses (in two dimensions) or ellipsoids (in three dimensions) are best-fit to the data using least-squares fitting. The vertices of the ellipses or ellipsoids are located at two standard deviations from the mean of the F1, F2, and duration measurements, representing the spread of the data in each vowel category. Overlap is then calculated as the number of uniformly distributed test points in the area of overlap over the total number of test points in each vowel distribution (Wassink 2006:2346). An overlap percentage of 0-20% is interpreted as no overlap in vowel categories, 20-40% is interpreted as partial overlap, and over 40% is interpreted as complete overlap.

In this study, the SOAM is used to compare the degree of overlap between the mid and high vowel categories in different prosodic conditions, in both the San Roque dialect and the Caridad dialect. The calculations and graphs were done using Wassink's (2006) Vowel Overlap Indication Software-3D (VOIS3D). Based on previous phonological descriptions (German 1932, Ramos 1963), overlap between the mid and high vowels was expected to be greater in San Roque than in Caridad, especially in unstressed final position. Overlap between the mid and high vowels was not expected in stressed conditions. The SOAM results presented in this chapter focus only on the two dimensional F1 x F2 overlap.

6.2.5.4 Vowel dispersion

To describe the overall size of the vowel space under different prosodic conditions, vowel dispersion is calculated by taking the Euclidean distance from each target vowel to the center of the talker's vowel space (Wright 2004). The center of the vowel space was calculated the same way as in the normalization of the F1 and F2 measurements (Nearey 1977, Wassink 2006), by taking the mean of each vowel category separately and then using them to calculate the grand mean.

The vowel dispersion measure is useful for determining how reduced or expanded the vowel space is in stressed compared to unstressed conditions, or final compared to nonfinal conditions. If Cavite Chabacano has unstressed vowel reduction, then the dispersion of the vowels should be greater in stressed than in unstressed conditions.

6.2.6 *Checking the reliability of phonetic measurements*

Steps were taken to check the reliability of the measurements for this task. After the measurements were extracted using a script in Praat, I checked for outliers in the F1 and F2 midpoint measurements, as these can be affected by errors when extracting measurements automatically. Duration measurements are not affected by such errors, so they were not checked at this stage.

The F1 and F2 measurements were checked before normalization. Tokens with measurements exceeding two standard deviations from the mean F1 and F2 measurements of each vowel category were considered outliers and were each individually checked by hand. In addition to calculating separate means for each vowel category, separate means were also calculated within each district, and for each gender within each district, in order to account for possible differences between the F1 and F2 values of men and women as well as possible dialectal variation. For example, the F1 measurements of the mid vowels were expected to vary between districts due to possible mid vowel raising in San Roque.

The outliers that were the result of F1 and F2 tracking errors were hand-corrected. These errors were often due to the presence of creaky voice or breathy voice. Outliers due to normal variation, for example a particularly raised or reduced vowel, were left unchanged.

Table 15 summarizes the measurement reliability check for this task. Tokens from all three districts (Caridad, San Roque, and San Antonio) are included in the table. The

check was done over all 18,311 tokens elicited in the task, and not just the subset of 15,763 tokens that were analyzed for this chapter.

	Outliers (out of 18,311 tokens)	Corrected	Found not to be errors
F1	557 (3.0% of the sample)	294 (52.8%)	263 (47.2%)
F2	729 (4.0% of the sample)	447 (61.3%)	282 (38.7%)

Table 15. Summary of the measurement reliability check for F0, F1, and F2 outliers in the word list task

Inter-coder reliability of the segmenting done by the six coders (the five interns and myself) was also checked for both tasks. For the word list task, I re-segmented and coded 70 of the vowel tokens originally done by each of the interns, extracted the measurements and checked for errors as described above, and compared them to the original measurements obtained by the interns. An R script was used to randomly generate a list of 70 tokens per coder for reanalysis, taking care to make sure they were distributed across the different prosodic conditions.

Table 16 summarizes the inter-coder reliability of the F1, F2, and duration measurements. Following Clopper (2011), reliability among coders was considered good if the absolute difference between the mean of the original set of measurements and the mean of the re-coded set of measurements was within 1-2% of the original mean. For example, in Table 15, the mean of F1 measurements from the tokens coded by Coder 1 was 555.5 Hz, and when the tokens were re-coded and re-measured the mean was 557.6 Hz. 1-2% of the original mean is 5.6-11.1 Hz, so the 2.1 Hz difference between the two

sets of measurements was quite good. The absolute differences for each set of measurements across coders were all within the acceptable 1-2% range or better.

	Coder 1	Coder 2	Coder 3	Coder 4	Coder 5
F1 (Hz)					
Mean 1	555.5	538.5	555.9	573.7	614.3
Mean 2	557.6	541.3	563.8	581.8	618.2
Absolute difference	2.1	2.8	7.9	8.1	3.9
F2 (Hz)					
Mean 1	1639.9	1705.0	1592.6	1742.8	1689.6
Mean 2	1637.5	1720.3	1586.7	1734.6	1703.8
Absolute difference	2.4	15.3	5.9	8.3	14.1
Duration (ms)					
Mean 1	130.4	111.9	121.4	136.3	136.2
Mean 2	128.9	110.3	124.2	136.8	131.2
Absolute difference	1.5	1.6	2.8	0.5	5.0

Table 16. Inter-coder reliability check: mean absolute differences between the original and recoded F1, F2, and duration measurements for 70 randomly selected tokens coded by each assistant

6.2.7 Statistical analysis

The F1, F2, vowel duration, and vowel dispersion measurements from this task were analyzed using linear mixed-effects regression modeling, using the *lmer* function from the package *lme4* in R (Bates et al. 2013). Mixed-effects modeling is useful for analyzing data with repeated measures and data that may have unequal numbers of observations in different cells (e.g. from data loss due to error), as is common in experimental data (Baayen 2012). Mixed-effects modeling is also useful for sociolinguistic data (Johnson 2008) because measures are usually repeated, and

fieldworkers or users of corpora often have unbalanced datasets because there is less control over the design when working outside of the laboratory. By considering random effects such as speaker and word, the data can be fitted more precisely because rather than using one regression line as if the population or set of lexical items were homogenous, each speaker or word can have its own slope and/or intercept. In this way, individual variation can be taken into account. The analysis in this study uses random intercepts.

In the analysis of both tasks in this chapter, the models that best fit the data were determined through log likelihood comparisons between models, beginning with the null model (including random effects only) and stepping up by adding one predictor or interaction between predictors at a time. If model comparison found that adding a predictor or interaction significantly improved the model at $\alpha = 0.05$, it was retained in the model. The significance of effects was determined by using p-values obtained through Markov Chain Monte Carlo (MCMC) simulations, using the `pvals.fnc` function in the `languageR` package in R (Baayen 2008). Significance was determined at $\alpha = 0.05$.

Vowel category overlap was assessed using Wassink's (2006) Spectral Overlap Assessment Metric (see 6.2.5.3). Qualitative comparison between dialects, or within dialects under different prosodic conditions, was made on the basis of the vowel overlap percentages yielded by the metric, but overlap was not calculated for each individual speaker so statistical significance using mixed-effects modeling was not assessed.

6.3 Word list task: Results

This section first gives an overview of the data by presenting vowel plots of the F1 x F2 vowel spaces for speakers in each of the three districts. Focusing on San Roque and Caridad, I then describe vowel category overlap between /i/ and /e/ and between /u/ and /o/. The F1 measurements are statistically analyzed in order to investigate the raising of /e/ and /o/, and then I analyze the measurements of F2, vowel duration, and vowel dispersion in order to investigate the effects of prosody on the overall vowel system.

6.3.1 *F1 x F2 vowel plots*

Figure 11 shows plots comparing the vowel systems of participants from the San Roque, Caridad, and San Antonio districts. The plots are based on normalized F1 x F2 values taken from the vowel midpoint and show the full distribution of vowels in each of the five categories.

The plots in Figure 11 show that for the most part, the vowel systems of the participants in the three districts are similar. All three districts seem to have some overlap between the high and mid vowel categories. All five vowels also appear to have a tendency to centralize. For example, the F1 range of /a/ extends to the center of the vowel space, and in Caridad and San Antonio especially, there are several tokens of /o/ overlapping with /a/ in the center of the vowel space.

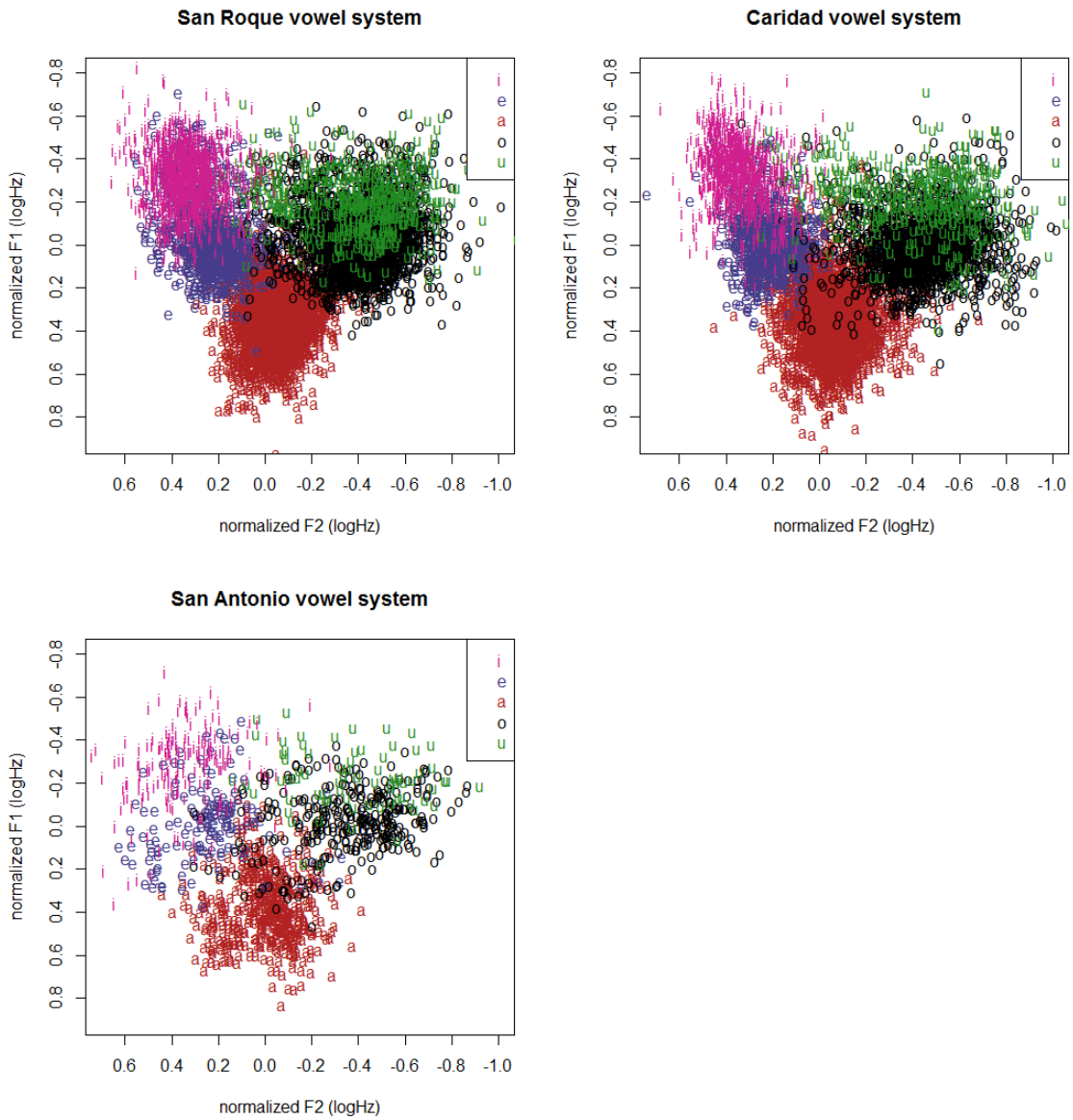


Figure 11. The vowel systems of San Roque (n = 7,976), Caridad (n = 6,566), and San Antonio (n = 1,221), based on normalized F1 x F2 values from the word list task

In order to examine the possible similarities and differences between districts more clearly, vowel category means in different prosodic conditions are plotted for each district in Figure 12. These plots compare stressed and unstressed vowels in nonfinal and phrase-final positions. Red is used to represent phrase-final vowels, and blue is used for nonfinal vowels. Stressed vowels are marked with a box around them, and unstressed vowels are unmarked. F1 and F2 measurements were taken from the vowel midpoint. Note that unstressed final /u/ does not appear on the plots because no tokens of /u/ in that position were elicited during the task.

Overall, the plots for the three districts in Figure 12 still look quite similar. Each plot shows five distinct vowel categories, particularly in stressed position. Stressed vowels in final and nonfinal position have similar means within each vowel category. The Figure 12 plots show that the centralization visible in the Figure 11 plots is due to a general tendency to reduce unstressed vowels, especially in nonfinal position. Unstressed nonfinal /u/ and /o/ are both considerably fronted and unstressed nonfinal /o/ is also raised in comparison to stressed /o/ across districts.

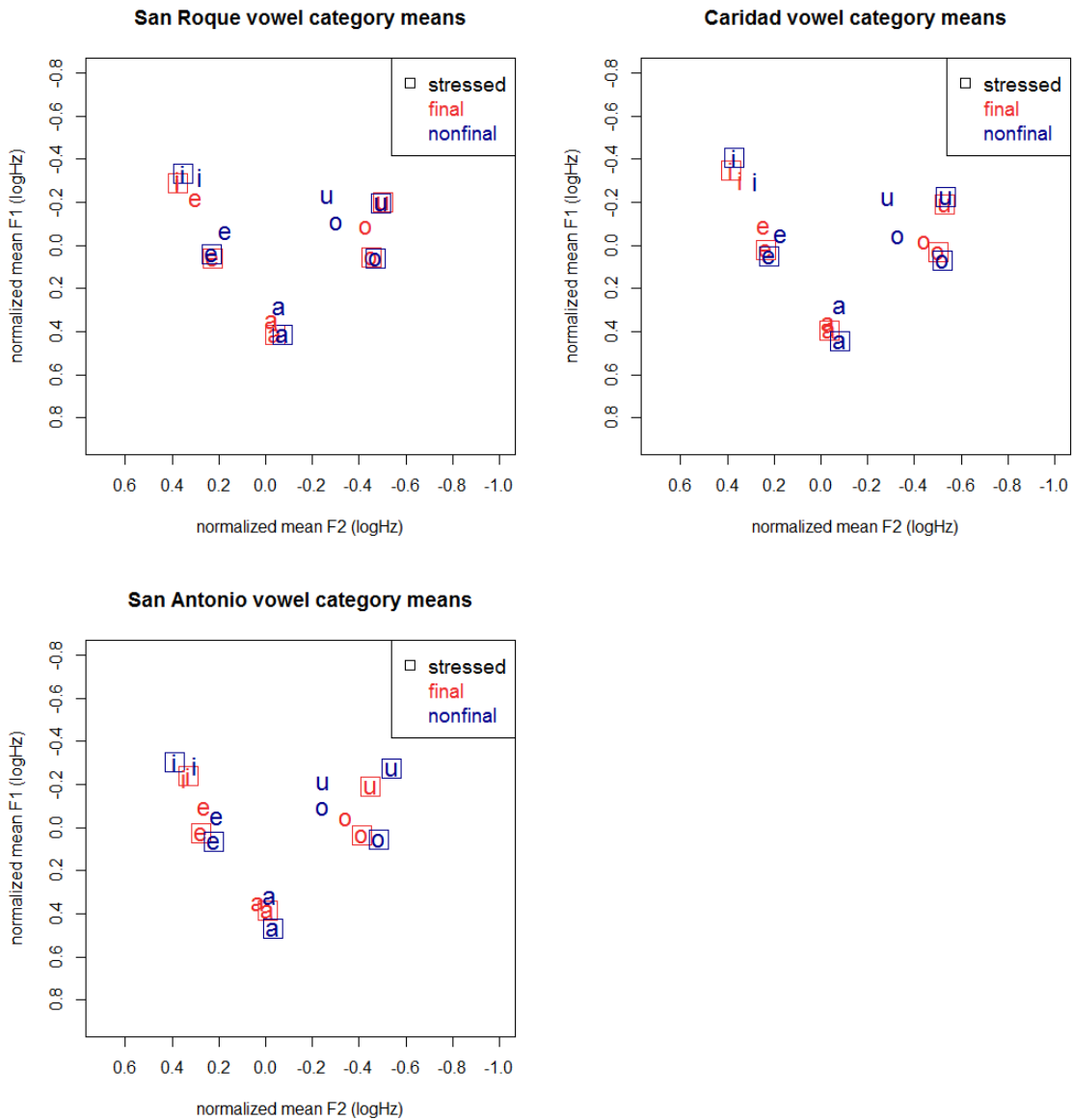


Figure 12. Normalized F1 x F2 vowel plots from the word list task showing mean values for each vowel category in different prosodic conditions in San Roque, Caridad, and San Antonio districts⁴⁸

⁴⁸ The characters representing unstressed final /i/ in San Roque and Caridad are difficult to see, but they overlap with stressed final /i/. Unstressed final /u/ is not in any of these plots because there were no tokens of /u/ in that context in this task.

However, as expected based on the previous literature (German 1932, Ramos 1963), it appears that there are dialectal differences in the mid vowels /e/ and /o/. While all three districts show some degree of mid vowel raising in unstressed compared to stressed positions in Figure 12, San Roque seems to have the most raising in unstressed final position. In this position, San Roque raises /e/ so much that the mean value appears to be closer to that of the /i/ categories than to /e/ in other prosodic positions. In Caridad and San Antonio, there is some slight raising of /e/ in unstressed final position, but the mean remains close to that of /e/ in other prosodic positions. For the back mid vowels, all three districts seem to raise /o/ to some degree when it is unstressed compared to when it is stressed, but the difference between unstressed and stressed /o/ seems to be somewhat bigger in San Roque. The raising of unstressed /o/ also follows a different pattern from unstressed /e/ in all three districts. For /e/, there is more raising in unstressed final position, but for /o/ there is more raising in unstressed nonfinal position.

These similarities and differences between the districts are analyzed further in the following subsections so that the reduction of the unstressed vowels, raising of the unstressed mid vowels, and degrees of vowel category overlap can be described and quantified in more detail.

6.3.2 *Vowel category overlap*

Spectral overlap between /i/ and /e/ and between /u/ and /o/ was analyzed using the methodology from Wassink (2006), as described in 6.2.5.3. The results presented in

this section provide a descriptive overview of how the high vowels and mid vowels are situated in relation to each other in the vowel space and discusses the role of duration in differentiating between the vowel categories.

6.3.2.1 Overlap between /i/ and /e/

To quantify the degree of spectral overlap between the front vowels, vowel category overlap percentages for /i/ and /e/ were calculated for Caridad and San Roque. The overlap percentages were calculated first with all tokens of /i/ and /e/ together, and then in subsets of different prosodic conditions: stressed and unstressed conditions, final and nonfinal conditions, and combinations of position and stress.

Table 17 summarizes the degrees of vowel category overlap in these different conditions. Using the guidelines suggested by Wassink (2006), an overlap percentage of 0-20% indicates no overlap in vowel categories, 20-40% indicates partial overlap, and over 40% indicates complete overlap. Vowel category overlap was originally calculated both in two dimensions (normalized F1 x F2) and three dimensions (normalized F1 x F2 x duration) in order to determine whether duration was being used to distinguish between vowel categories, but there was not much difference between the 2D and 3D calculations, so only the 2D overlap percentages are discussed below. It appears that duration is not an important part of the distinction between the mid and high vowel categories.

	Caridad	San Roque
	2D	2D
Overall	35%	52%
Stressed	0%	7%
Unstressed	51%	79%
Final	47%	77%
Nonfinal	24%	26%
Unstressed final	69%	78%
Unstressed nonfinal	48%	51%
Stressed final	19% ⁴⁹	19%
Stressed nonfinal	0%	2%

Table 17. 2D (normalized F1 x F2) vowel overlap percentages for /i/ and /e/ in Caridad and San Roque under different prosodic conditions

Table 17 shows that both districts have a great deal of overlap in the /i/ and /e/ categories, as can also be observed in the scatter plots from Figure 11. However, the percentages for San Roque are consistently higher than those for Caridad. Overall, when only F1 x F2 measurements are taken into account, Caridad has partial overlap (34%), while San Roque has complete overlap (52%).

Figure 13 shows the overlap of /i/ and /e/ in F1 x F2 space across all conditions in each district. The red x symbols in the graphs represent /i/ and the blue triangles represent /e/. The graphs show that both districts have /i/ and /e/ overlap in terms of both F1 and F2 measurements. However, San Roque has lower F1 measurements and higher F2 for /e/ compared to Caridad, meaning that the vowel is higher and more fronted.

⁴⁹ It may seem odd that the overlap percentage in the stressed condition is 0%, but the overlap is 19% in the subset of stressed final /i/ and /e/. The reason it is possible for the subset to have higher overlap is due to the nature of the overlap calculations. The ellipses calculated for each vowel category have boundaries two standard deviations from the mean F1 and F2. As sample size increases, standard deviation decreases. Therefore, the overlap calculation is not as high in the overall stressed category compared to the subset stressed final category because the subset has fewer tokens.

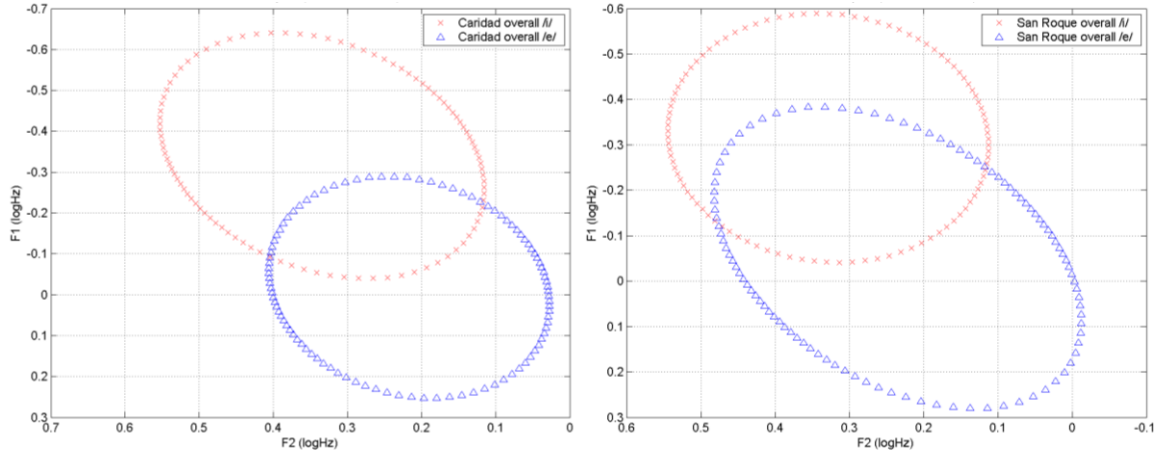


Figure 13. Vowel category overlap between /i/ and /e/ in Caridad (left, 35%) and San Roque (right, 52%) in the word list task. All tokens of /i/ and /e/ are included for each district.

For both districts, there is a clear difference between the /i/ and /e/ categories when they are stressed but not when they are unstressed. When /i/ and /e/ are stressed, Caridad (0%) and San Roque (7%) are both in the no overlap category. When the front vowels are unstressed, both districts have complete overlap, but the overlap percentage is considerably higher in San Roque (79%) than in Caridad (51%). Both districts also have partial overlap in nonfinal position, but complete overlap in final position, with the figures again higher in San Roque. San Roque has 77% overlap in final position and 26% overlap in nonfinal position, while Caridad has 47% and 24% overlap in those categories.

Subdividing the prosodic categories further shows that stress and position clearly interact. For the stressed vowels, Caridad has 0% overlap between /i/ and /e/ when they are nonfinal, and San Roque has only 2% overlap. There is slightly more /i/ and /e/ overlap in final position, but not enough to place either district in the partial overlap category. For both Caridad and San Roque, the stressed final overlap percentage remains in the no overlap category at 19%. Figure 14 visualizes these overlap percentages between /i/ and /e/ in stressed final and in stressed nonfinal conditions in Caridad (left) and San Roque (right). Red and magenta x marks represent /i/ when it is final and nonfinal, and blue and cyan triangles represent /e/ when it is final and nonfinal.

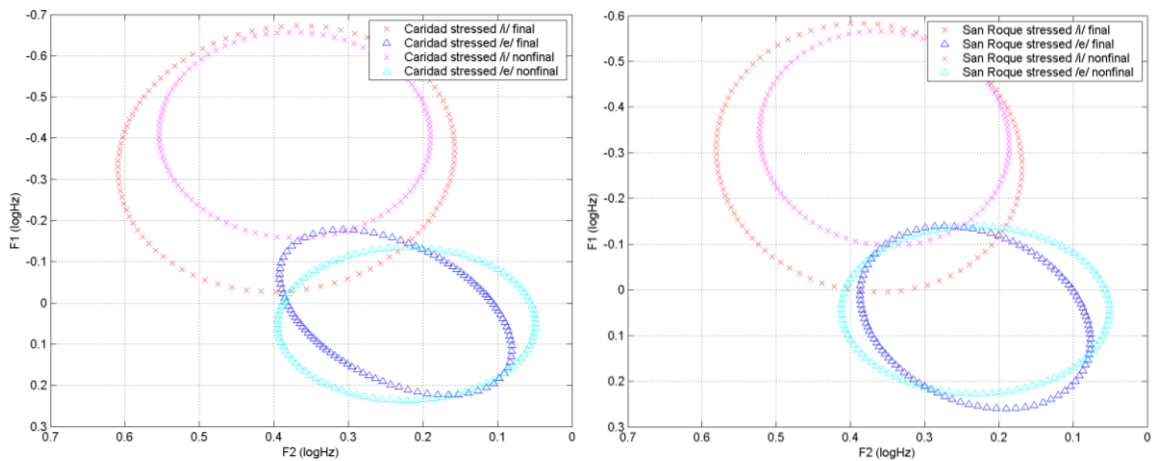


Figure 14. 2D overlap between stressed final and nonfinal /i/ and /e/ in Caridad (left) and San Roque (right) in the word list task

For the unstressed vowels, there is greatest overlap between /i/ and /e/ when they are final. Caridad has 69% overlap in unstressed final position, and 48% in unstressed nonfinal position. San Roque has 78% overlap in unstressed final position, and 51% in unstressed nonfinal position. Figure 15 shows these degrees of overlap between /i/ and /e/ in unstressed final and unstressed nonfinal conditions in Caridad (left) and San Roque (right). Red and magenta are unstressed final /i/ and nonfinal /i/, and blue and cyan are unstressed final /e/ and nonfinal /e/.

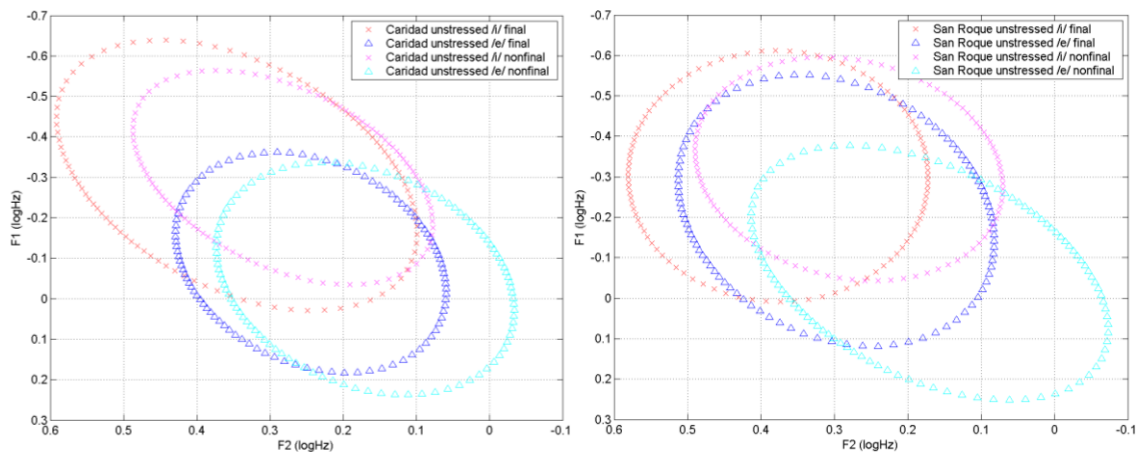


Figure 15. 2D overlap between unstressed final and nonfinal /i/ and /e/ in Caridad (left) and San Roque (right) in the word list task

All of the percentages of overlap in the different unstressed conditions are high enough to be considered complete overlap in both districts, but San Roque clearly has more overlap compared to Caridad, as Figure 15 shows. Unstressed final and nonfinal /e/

in San Roque both have lower F1 than they do in Caridad. Both districts have a much wider range of F1 and F2 values in unstressed compared to stressed conditions, as Figure 15 shows.

It is often difficult to tell from the overlap percentages or graphs alone which linguistic factors account for the overlap (e.g. mid vowel raising as opposed to high vowel lowering, or fronting versus backing). Statistical analysis of the F1 and F2 measurements in both districts is needed to investigate the patterns described in this subsection more precisely and confirm whether there are significant dialectal differences between the districts in terms of any of these measurements. Sections 6.3.3-6.3.5 provide statistical analyses of the F1, F2, dispersion, and duration measurements in order to further investigate the acoustic properties of /i/, /e/, and the rest of the vowel system.

6.3.2.2 Overlap between /u/ and /o/

As with the front vowels /i/ and /e/, vowel category overlap percentages for /u/ and /o/ were calculated for both districts. Table 18 summarizes the overall degree of vowel overlap for /u/ and /o/, as well as the overlap percentages in different prosodic conditions. As before, an overlap percentage of 0-20% indicates no overlap, 20-40% indicates partial overlap, and over 40% indicates complete overlap. The row for unstressed final /u/ and /o/ overlap is empty because there were no tokens of /u/ in that position elicited during this task, so no comparison to /o/ could be made.

	Caridad	San Roque
	2D	2D
Overall overlap	67%	66%
Stressed	46%	43%
Unstressed	78%	75%
Final	60%	73%
Nonfinal	68%	67%
Unstressed final	--	--
Unstressed nonfinal	92%	85%
Stressed final	60%	46%
Stressed nonfinal	39%	44%

Table 18. 2D (normalized F1 x F2) vowel overlap percentages for /u/ and /o/ in Caridad and San Roque under different prosodic conditions

Caridad and San Roque have much more similar overlap percentages for the back vowels than they do for the front vowels. Overall, both districts overlap /u/ and /o/ by nearly two-thirds, and they both have complete overlap (over 40%) in all conditions, except for the stressed nonfinal condition in Caridad, which is at 39%. While San Roque consistently has more overlap between /i/ and /e/ in each position and stress condition, this pattern is not found with /u/ and /o/ overlap. Caridad has slightly more overlap than San Roque does in stressed, unstressed, and nonfinal positions, and San Roque has more overlap than Caridad in final position.

Figure 16 shows graphs of the overlap between /u/ and /o/ across all conditions in Caridad (left) and San Roque (right). Red x marks indicate /u/ and blue triangles represent /o/.

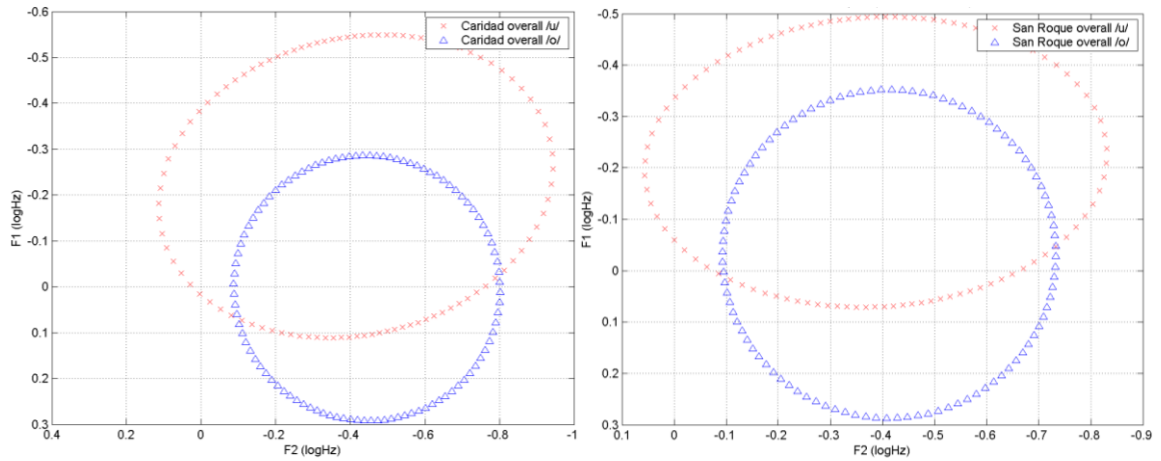


Figure 16. 2D (normalized F1 x F2) vowel category overlap between /u/ and /o/ in Caridad (left) and San Roque (right) in the word list task. All tokens of /u/ and /o/ are included for each district.

Both districts have the least overlap in stressed position, but the overlap percentages are still high enough to classify /u/ and /o/ as completely overlapping in F1 x F2 space. In stressed position, Caridad has slightly more overlap (46%) than San Roque (43%). For Caridad, this difference owes primarily to the overlap of /u/ and /o/ in stressed final position, which is 60%. San Roque has a lower overlap percentage of 44% in stressed final position, but that number still qualifies for complete overlap. In stressed nonfinal position, the districts have more similar overlap percentages, with San Roque slightly higher at 44% compared to 39% in Caridad. 39% is just low enough to put Caridad in the partial overlap category for that position. Figure 17 shows the overlap between stressed final and nonfinal /u/ and /o/ in Caridad (left) and San Roque (right).

Red and magenta represent stressed final and nonfinal /u/, and blue and cyan represent stressed final and nonfinal /o/.

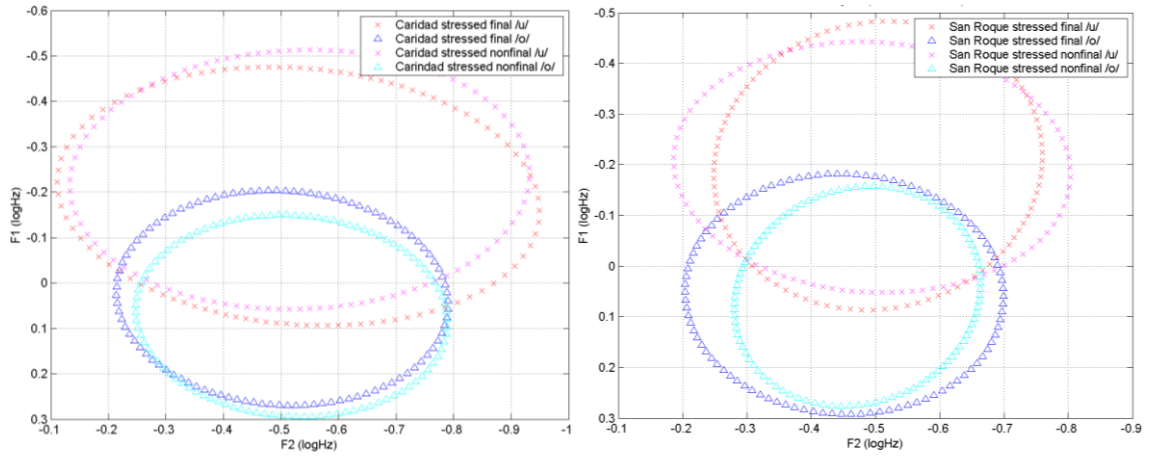


Figure 17. Similar degrees of 2D overlap between stressed final and nonfinal /u/ and /o/ in Caridad (left) and San Roque (left) in the word list task

Overlap in F1 x F2 space is even higher when /u/ and /o/ are unstressed, with 78% overlap in Caridad and 75% in San Roque. The overlap percentages are especially high when syllable position is taken into account. In unstressed nonfinal position, Caridad has 92% overlap and San Roque has 85%. The overlap between /u/ and /o/ in unstressed positions is illustrated in Figure 18. While overlap between unstressed final /u/ and /o/ cannot be calculated because there are no tokens of unstressed final /u/, the distribution of unstressed final /o/ is included in Figure 20. Unstressed final /o/ is blue, unstressed nonfinal /o/ is cyan, and unstressed nonfinal /u/ is magenta.

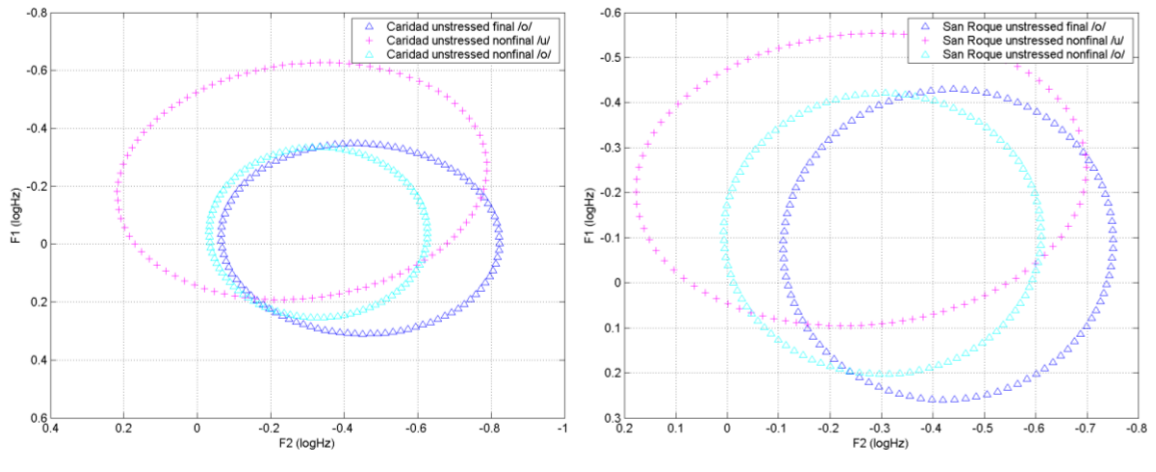


Figure 18. 2D overlap between unstressed final /o/, unstressed nonfinal /u/, and unstressed nonfinal /o/ in Caridad

The results of the vowel category overlap analyses suggest that the patterns for /u/ and /o/ are not the same as the patterns for /i/ and /e/. It seems that overall, the back vowel categories overlap in acoustic space, and there is little “raising” of /o/ because both /u/ and /o/ are already close together in all prosodic contexts. Another difference from the front vowels is that Caridad seems to have more overlap than San Roque does in the back vowel space, but not by a large margin. Whether these differences are significant in terms of the F1 or F2 measurements is statistically analyzed further in the following subsections.

6.3.3 *F1 measurements*

6.3.3.1 Height of /e/

To determine which linguistic and social factors affect the height of /e/ in Cavite Chabacano, measured by normalized F1 frequency, a linear mixed-effects regression model was built by starting with the null model and stepping up by one factor or interaction at a time. The analysis was based on 1,753 tokens of /e/ from San Roque and Caridad participants. Because there were so few San Antonio participants, data from them are not included in this analysis. Speaker and word were considered to have random intercepts, and these fixed effects were tested in the following order to determine if they improved the model: stress, syllable position, normalized vowel duration, following segmental environment, whether the syllable was open or closed, word origin, district, gender, education, age, and Spanish fluency. In general, linguistic effects were tested before social effects, and within each category the effects thought most likely to improve the model were tested first. Interactions between district, stress, and position were also tested.

The fixed effects of the final model selected are summarized in Table 19. The fixed effects found to significantly improve the model were stress, position, duration, following segment, and interactions between stress, position, and district. Age, Spanish fluency, gender, education, word origin, and open syllable were not found to significantly improve the model. For the coefficients of the fixed effects in Table 19, lower estimates indicate greater height of /e/, and higher estimates indicate lower height of /e/.

Factors/levels	Estimate	Std. Error	t value	pMCMC
(Intercept)	-0.0142	0.0303	-0.4700	0.6996
Stress (reference level: stressed)				
unstressed	-0.0814	0.0155	-5.2620	0.0001
District (reference level: Caridad)				
San Roque	0.0017	0.0164	0.1060	0.9386
Position (reference level: nonfinal)				
final	-0.0607	0.0333	-1.8240	0.0342
Following segment (reference level: pause)				
voiced	0.0762	0.0252	3.0210	0.0038
voiceless	0.0093	0.0232	0.3990	0.5794
Duration (normalized)	0.0242	0.0094	2.5680	0.0070
Stress:District				
unstressed:San Roque	-0.0128	0.0144	-0.8900	0.4106
Stress:Position				
unstressed:final	0.0252	0.0428	0.5880	0.5046
District:Position				
San Roque:final	0.0475	0.0178	2.6660	0.0094
Stress:District:Position				
unstressed:San Roque:final	-0.1575	0.0233	-6.7580	0.0001

Table 19. Summary of the final linear mixed effects regression model showing fixed effect predictors of vowel height (normalized F1) for /e/ in the word list task

As Table 19 shows, the F1 of unstressed /e/ is significantly lower than it is for stressed /e/ (pMCMC = 0.0001), meaning that the vowel is more raised. F1 is also significantly lower when /e/ is in final position than in nonfinal position (pMCMC < 0.05). /e/ tends have higher F1 (i.e. the vowel is lower) when it is followed by a voiced segment rather than a pause (pMCMC < 0.01). Duration was also found to be a significant predictor (pMCMC < 0.01), and the estimate indicates that the F1 of /e/ increases (i.e. the vowel is lower) as duration increases.

District did not have a strong effect on the height of /e/ on its own (pMCMC > 0.05). However, there are significant interactions involving district, stress, and position. Position and district interact such that F1 is lower in Caridad in final position, but not in San Roque (pMCMC < 0.01). However, there is a three-way interaction between stress, position, and district. The F1 of /e/ in San Roque is significantly lowered in final position when it is unstressed (pMCMC = 0.0001). In other words, unstressed final /e/ is more raised than unstressed nonfinal /e/ in San Roque, as expected based on the vowel plots in sections 6.3.1 and 6.3.2.1.

6.3.3.2 Height of /o/

To determine which linguistic and social factors affect the height of /o/, measured by normalized F1 frequency, a linear mixed-effects regression model was built by stepping up from the null model. The analysis was based on 3,763 tokens of /o/ from San Roque and Caridad participants. Speaker and word were considered to have random intercepts, and these fixed effects were tested in the following order to determine if they improved the model: stress, syllable position, normalized vowel duration, following segmental environment, whether the syllable was open or closed, word origin, district, gender, education, age, and Spanish fluency. Interactions between stress, position, and district were also tested.

The fixed effects of the final model selected are summarized in Table 20. The fixed effects found to significantly improve the model were stress, position, duration, open syllable, and district, as well as interactions between stress, position, and district.

Age, Spanish fluency, gender, education, word origin, and following segment were not found to significantly improve the model. Lower estimates in the table indicate greater height of /o/, and higher estimates indicate lower height of /o/.

Factors/levels	Estimate	Std. Error	t value	pMCMC
(Intercept)	0.0757	0.0183	4.147	0.0001
Stress (reference level: stressed)				
unstress	-0.0910	0.0170	-5.359	0.0001
District (reference level: Caridad)				
SanRoque	-0.0117	0.0191	-0.613	0.5380
Position (reference level: nonfinal)				
final	-0.0460	0.0179	-2.577	0.0046
Open syllable (reference level: no)				
yes	-0.0524	0.0107	-4.915	0.0001
Duration (normalized)	0.0188	0.0061	3.082	0.0034
Stress:District				
unstressed:San Roque	-0.0391	0.0135	-2.897	0.0030
Stress:Position				
unstressed:final	0.0736	0.0256	2.880	0.0006
District:Position				
San Roque:final	0.0423	0.0131	3.233	0.0014
Stress:District:Position				
unstressed:San Roque:final	-0.0478	0.0170	-2.816	0.0046

Table 20. Summary of the final linear mixed effects regression model showing fixed effect predictors of vowel height (normalized F1) for /o/ in the word list task

The normalized F1 of /o/ is significantly lower (i.e. the vowel is raised) when the vowel is unstressed compared to when it is stressed (pMCMC = 0.0001). The vowel is also raised when it is in final compared to nonfinal position (pMCMC < 0.01). In addition, /o/ is raised when it is in an open syllable (pMCMC = 0.0001). There is also a

correlation with vowel duration. Similarly to /e/, the F1 of /o/ significantly increases as duration increases (pMCMC < 0.01), meaning that the vowel is lower when it is longer.

As a main effect, district alone does not significantly predict vowel height. San Roque has only a slight tendency to raise /o/ compared to Caridad (pMCMC > 0.05). However, there are interactions between district, stress, and position. The main effect of position is that final /o/ has a lower F1 in final position (pMCMC < 0.01), but the two-way interactions of position with stress and district indicate that F1 is not lowered in final position as much by San Roque speakers compared to Caridad speakers (pMCMC < 0.01) or when /o/ is also unstressed compared to when it is stressed (pMCMC < 0.0001). However, all three factors interact such that San Roque has significant raising of /o/ when it is both unstressed and final (pMCMC < 0.01).

6.3.4 *F2 measurements*

Analysis of the F2 measurements was done to determine how stress, syllable position, district, and other factors affect the frontness or backness of the vowels. For example, based on the vowel plots in 6.3.1, unstressed vowels appeared to be centralized in terms of F2, but statistical analysis was needed to confirm that the pattern was significant. A linear mixed-effects regression model was built by stepping up from the null model. The analysis was based on vowels from all five categories (n = 14,543) from the San Roque and Caridad participants. Speaker and word were considered to have random intercepts, and these fixed effects were tested in the following order to determine if they improved the model: stress, syllable position, vowel category, normalized vowel

duration, following segmental environment, whether the syllable was open or closed, word origin, district, gender, education, age, and Spanish fluency. Interactions between vowel, position, and district were also tested.

The fixed effects found to significantly improve the model were stress, syllable position, vowel category, district, vowel duration, following segment, and open syllable, as well as interactions involving vowel category, stress, position, and district. These effects are summarized in Table 21. Age, Spanish fluency, gender, education, and word origin but were not found to significantly improve the model. Lower estimates in the table indicate a more back vowel, and higher estimates indicate a more front vowel.

Unsurprisingly, with /a/ as the reference level, /i/ and /e/ were found to have higher F2 (pMCMC = 0.0001, pMCMC = 0.0001) and /u/ and /o/ were found to have lower F2 (pMCMC = 0.0001, pMCMC = 0.0001). F2 is significantly higher in unstressed compared to stressed /a/ (pMCMC = 0.001) and in final compared to nonfinal /a/ (pMCMC = 0.0001). /a/ had significantly higher F2 when it was followed by a voiceless segment compared to when it was followed by a pause (pMCMC < 0.001) and when it was in open compared to closed syllables (pMCMC < 0.0001).

Factors/levels	Estimate	Std. Error	t value	pMCMC
(Intercept)	-0.1231	0.0127	-9.7100	0.0001
Stress (reference level: stressed)				
unstressed	0.0137	0.0041	3.3100	0.0008
Position (reference level: nonfinal)				
final	0.0611	0.0070	8.7600	0.0001
Vowel (reference level: /a/)				
/e/	0.3196	0.0078	40.8800	0.0001
/i/	0.4228	0.0073	58.0200	0.0001
/o/	-0.3455	0.0072	-47.8300	0.0001
/u/	-0.3905	0.0098	-39.9600	0.0001
District (reference level: Caridad)				
San Roque	0.0157	0.0108	1.4500	0.1468
Duration (normalized)	-0.0160	0.0030	-5.3400	0.0001
Following segment (reference level: pause)				
voiced	0.0096	0.0063	1.5100	0.1276
voiceless	0.0210	0.0062	3.3900	0.0004
Open syllable (reference level: no)				
yes	0.0168	0.0039	4.3300	0.0001
Position:Vowel				
final:/e/	0.0590	0.0107	5.5000	0.0001
final:/i/	-0.0075	0.0110	-0.6800	0.4252
final:/o/	-0.0753	0.0086	-8.7900	0.0001
final:/u/	-0.0503	0.0240	-2.0900	0.0180
Position:District				
final:San Roque	-0.0182	0.0060	-3.0400	0.0022
Vowel:District				
/e/:San Roque	-0.0119	0.0079	-1.5100	0.1280
/i/:San Roque	-0.0258	0.0069	-3.7600	0.0001
/o/:San Roque	0.0177	0.0071	2.5000	0.0130
/u/:San Roque	0.0085	0.0086	1.0000	0.3130
Vowel:Stress				
/e/:unstressed	-0.0899	0.0085	-10.6400	0.0001
/i/:unstressed	-0.0705	0.0082	-8.5800	0.0001
/o/:unstressed	0.0427	0.0068	6.2500	0.0001
/u/:unstressed	0.2013	0.0117	17.1500	0.0001
Position:Vowel:District				
final:/e/:San Roque	0.0437	0.0124	3.5100	0.0004
final:/i/:San Roque	0.0344	0.0121	2.8300	0.0040
final:/o/:San Roque	0.0145	0.0097	1.5000	0.1426
final:/u/:San Roque	0.0212	0.0242	0.8800	0.4178

Table 21. Summary of the final linear mixed effects regression model showing fixed effect

predictors of vowel F2 in the word list task

Vowel category interacts with both stress and position. The front vowels /i/ and /e/ are both more front in final position compared to nonfinal position (pMCMC = 0.0001, pMCMC = 0.0001), and the back vowels /u/ and /o/ are more back (pMCMC = 0.0001, pMCMC = 0.0001). The front vowels also have significantly lower F2 when they are unstressed (pMCMC = 0.0001, pMCMC = 0.0001), and the back vowels have significantly higher F2 (pMCMC = 0.0001, pMCMC = 0.0001). These results confirm that the vowels are centralized in terms of their F2 measurements when they are unstressed. The vowels are also more peripheral in terms of F2 in final position.

San Roque has a tendency toward higher F2 compared to Caridad, but this trend is not significant (pMCMC > 0.05). However, district interacts with vowel and position. /i/ is significantly less front in San Roque compared to Caridad (pMCMC = 0.001), and /o/ is also less back (pMCMC < 0.05). San Roque also has lower F2 in final position compared to Caridad (pMCMC < 0.01), with /a/ as the reference level. There is also a three-way interaction such that /i/ (pMCMC < 0.001) and /e/ (pMCMC < 0.01) are more front in San Roque than in Caridad when they are in final position.

6.3.4 *Vowel duration*

The distribution of the normalized duration of vowels in different prosodic conditions in all three districts is summarized in the box plots in Figure 19. Red boxes represent vowels in ultimate position, and blue boxes represent vowels in nonfinal position.

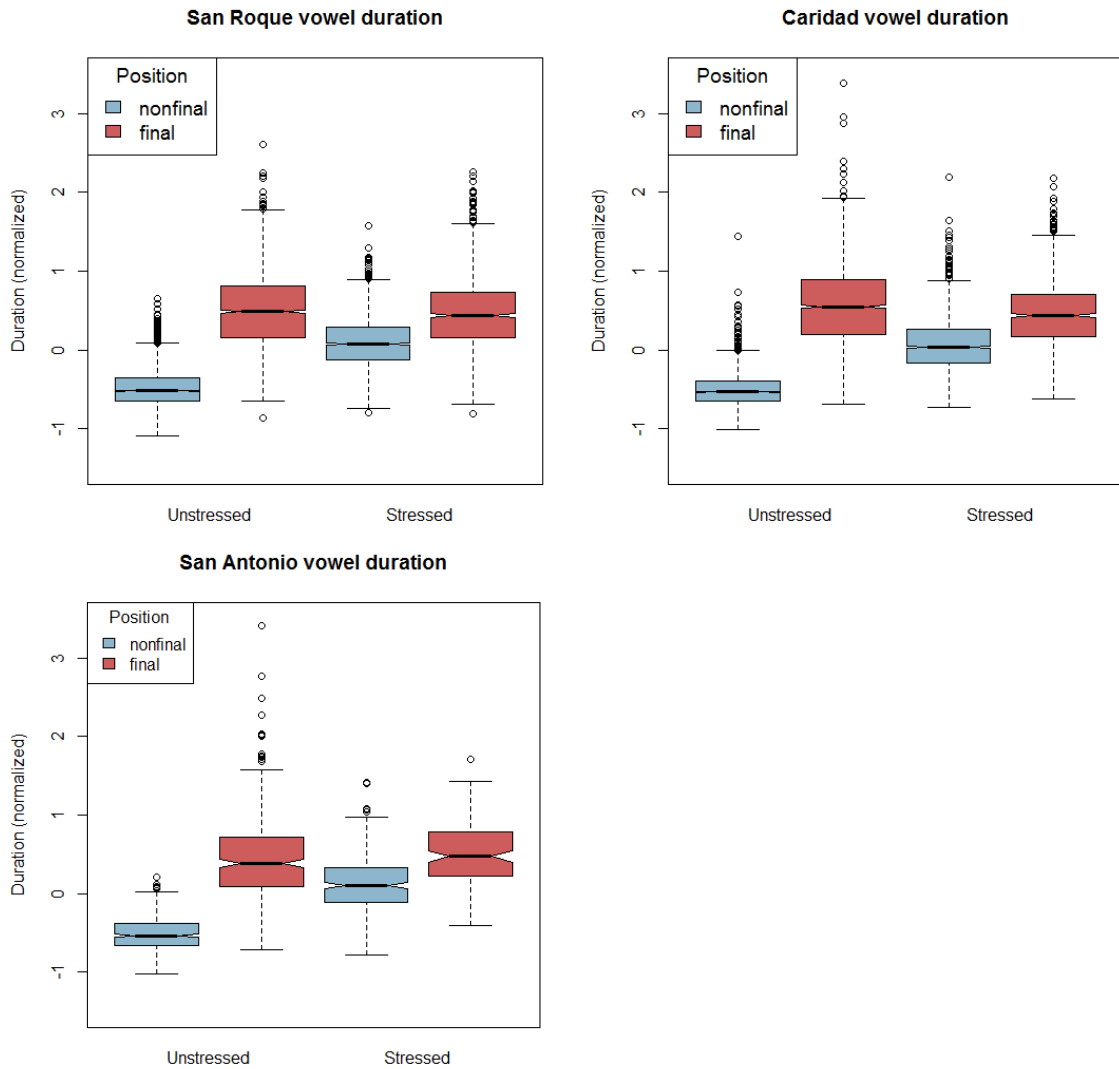


Figure 19. Vowel duration by stress and position in San Roque, Caridad, and San Antonio in the word list task

Figure 19 shows that the duration of vowels under different prosodic conditions appears to be similar across districts. Stressed vowels are generally longer in duration than unstressed vowels, but final vowels have the longest duration, regardless of stress.

Unstressed final vowels have longer duration than stressed nonfinal vowels, and are sometimes even longer than stressed final vowels.

A linear mixed-effects regression model was built by stepping up from the null model in order to further examine the factors affecting vowel duration. In addition to confirming the phrase-final lengthening visible in Figure 19, this analysis was done to investigate whether vowel duration is a correlate of stress. The 14,543 vowel tokens from Caridad and San Roque participants were included in the analysis. Speaker and word were considered to have random intercepts, and the factors of stress, syllable position, vowel category, following segmental environment, whether the syllable was open or closed, word origin, vowel dispersion, district, gender, education, age, and Spanish fluency were considered as fixed effects.

The fixed effects of the final model selected are summarized in Table 22. The fixed effects found to significantly improve the model were stress, position, vowel category, following segment, vowel dispersion, open syllable, and district. Age, education, Spanish fluency, gender, and word origin were not found to significantly improve the model. Lower estimates in the table indicate shorter vowel duration, and higher estimates indicate longer vowel duration.

Factors/levels	Estimate	Std. Error	t value	pMCMC
(Intercept)	0.2954	0.0303	9.7400	0.0001
Position (reference level: nonfinal)				
final	0.3446	0.0194	17.7400	0.0001
Stress (reference level: stressed)				
unstressed	-0.6131	0.0128	-48.0500	0.0001
District (reference level: Caridad)				
San Roque	-0.0131	0.0072	-1.8200	0.0872
Vowel (reference level: /a/)				
/e/	-0.0491	0.0178	-2.7600	0.0096
/i/	-0.1825	0.0172	-10.6300	0.0001
/o/	0.0458	0.0177	2.5900	0.0106
/u/	-0.1014	0.0246	-4.1200	0.0001
Following segment (reference level: pause)				
voiced	-0.2410	0.0176	-13.7200	0.0001
voiceless	-0.3409	0.0167	-20.3700	0.0001
Dispersion	0.0781	0.0169	4.6200	0.0001
Open syllable (reference level: no)				
yes	0.1075	0.0106	10.1500	0.0001
Position:Stress				
final:unstressed	0.5201	0.0202	25.7200	0.0001
Position:Vowel				
final:/e/	0.0152	0.0228	0.6600	0.5688
final:/i/	-0.0315	0.0246	-1.2800	0.1702
final:/o/	0.0474	0.0182	2.6100	0.0120
final:/u/	-0.2840	0.0555	-5.1200	0.0001
Stress:Vowel				
unstressed:/e/	-0.0134	0.0232	-0.5800	0.5304
unstressed:/i/	0.0096	0.0225	0.4300	0.6472
unstressed:/o/	-0.1251	0.0187	-6.6700	0.0001
unstressed:/u/	-0.0207	0.0321	-0.6400	0.6732

Table 22. Summary of the final linear mixed effects regression model showing fixed effect predictors of normalized vowel duration in the word list task

The model confirms that vowel duration is significantly longer in final position than in nonfinal position (pMCMC = 0.0001), and that vowels are significantly shorter in

unstressed position than in stressed position (pMCMC = 0.0001). There is also a significant interaction between stress and position, with unstressed vowels having significantly longer duration when they are final (pMCMC = 0.0001). These findings confirm the observations based on the graphs in Figure 19. In addition, vowels are also significantly longer when they are in an open syllable (pMCMC = 0.0001), and shorter when they are followed by a voiced (pMCMC = 0.0001) or voiceless segment (pMCMC = 0.0001). Vowel duration is also correlated with vowel dispersion. The duration of the vowel increases as dispersion increases (pMCMC = 0.0001). In other words, when the vowel is longer it is also likely to be more peripheral, but when the vowel is reduced spectrally, it is likely to be reduced temporally.

Vowel category was found to significantly predict vowel duration. With /a/ as the reference level, /e/ (pMCMC < 0.01), /i/ (pMCMC = 0.0001), and /u/ (pMCMC = 0.0001) all shorter duration, as would be expected based on the fact that higher vowels are intrinsically shorter than lower vowels (Peterson & Lehiste 1960). However, /o/ had longer duration compared to /a/ (pMCMC < 0.05). There were also interactions of vowel category with position and stress. The vowels are generally longer when they are in final position, but /o/ (pMCMC < 0.05) is longer in comparison to /a/, while /u/ is significantly shorter (pMCMC = 0.0001). The lengthening of /o/ perhaps contributes to maintaining distinction from other vowel categories. Overall, the vowels are shorter when they are unstressed, but this effect is more pronounced for /o/ in comparison to /a/ (pMCMC = 0.0001).

6.3.5 *Vowel dispersion*

Figure 20 shows plots of the normalized dispersion of the vowels in different syllable positions and stress conditions in each of the three districts. Red boxes represent vowels in ultimate position, and blue boxes represent vowels in nonfinal position.

The graphs suggest that stress or position alone do not predict dispersion. For example, stressed vowels do not seem to have greater dispersion across the board compared to unstressed vowels. Stressed nonfinal vowels tend to have the greatest dispersion, but in contrast, stressed final vowels do not seem to be more dispersed than the unstressed vowels. In the unstressed category, final vowels have greater dispersion in comparison to nonfinal vowels. Unstressed final vowels also seem to have slightly more dispersion than stressed final vowels.

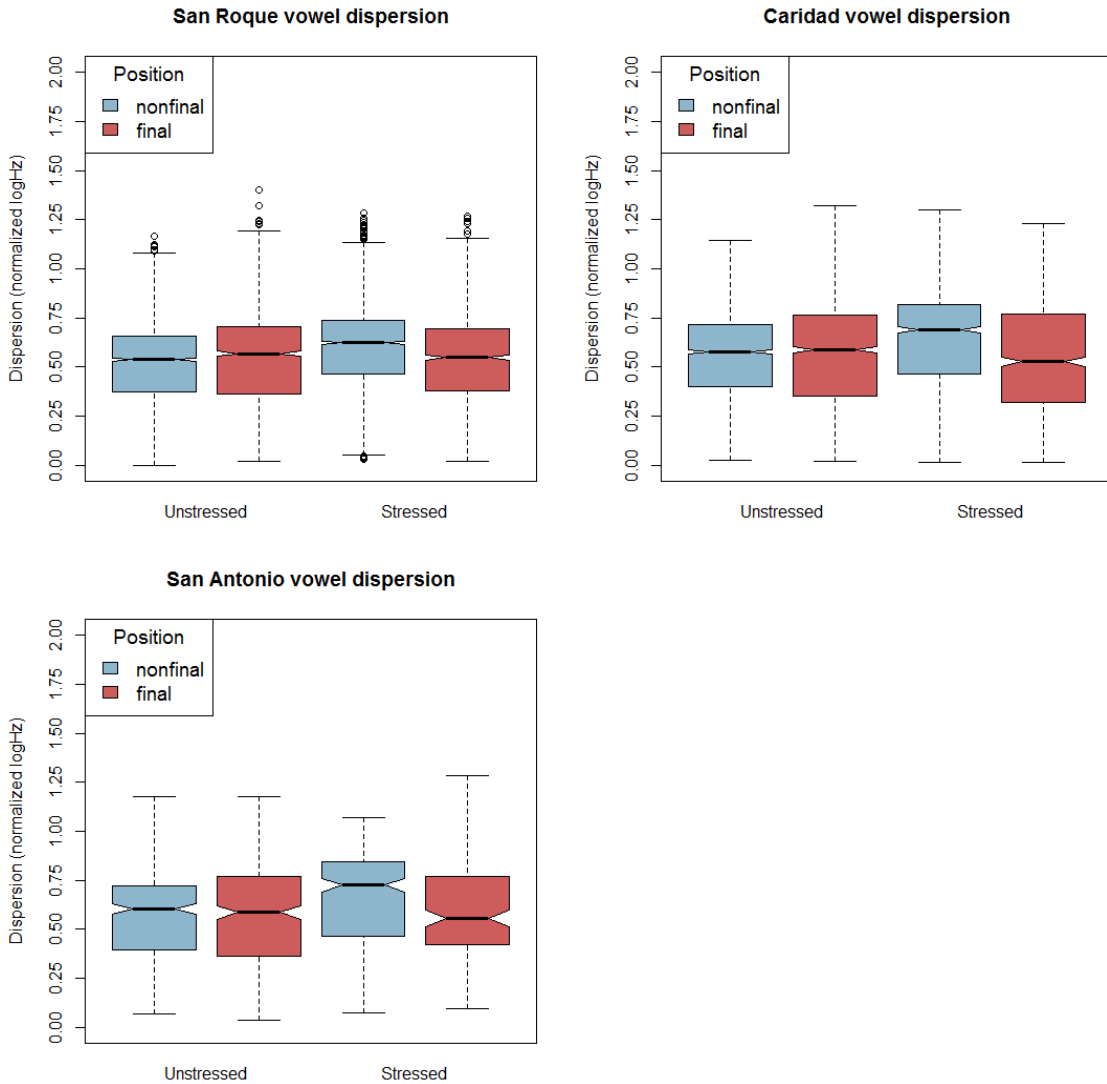


Figure 20. Vowel dispersion by stress and syllable position in San Roque, Caridad, and San Antonio in the word list task

To further investigate these patterns and identify other potential predictors of vowel dispersion, a linear mixed-effects regression model was built by stepping up from the null model. The model includes 14,543 vowel tokens from the San Roque and

Caridad participants. Speaker and word were considered to have random intercepts, and the factors of stress, syllable position, vowel category, normalized vowel duration, following segmental environment, whether the syllable was open or closed, word origin, district, gender, education, age, and Spanish fluency were considered as fixed effects. Interactions between different combinations of stress, vowel, position, and district were also tested.

The fixed effects of the final model selected are summarized in Table 23. The fixed effects found to significantly improve the model were stress, position, district, duration, open syllable, preceding segment, following segment, and district. Age, education, Spanish fluency, and word origin were not found to significantly improve the model. Lower estimates in the table indicate less vowel dispersion (i.e. more spectrally reduced vowels), and higher estimates indicate greater vowel dispersion (i.e. more peripheral vowels).

Stress is a significant predictor of vowel dispersion, with unstressed vowels likely to have less dispersion compared to stressed vowels ($pMCMC = 0.0001$). In other words, unstressed vowels are reduced. Position also improved the model, but the effect of final vowels having less dispersion than nonfinal vowels was not significant ($pMCMC > 0.05$). However, there is a significant interaction between stress and position. Unstressed vowels have significantly greater dispersion when they are final than when they are nonfinal ($pMCMC = 0.0001$), as observed in Figure 20.

Factors/levels	Estimate	Std. Error	t value	pMCMC
(Intercept)	0.7382	0.0281	26.2800	0.0001
Stress (reference level: stressed)				
unstressed	-0.0974	0.0055	-17.8600	0.0001
Position (reference level: nonfinal)				
final	-0.0103	0.0087	-1.1800	0.2380
Vowel (reference level: /a/)				
/e/	-0.0458	0.0088	-5.2200	0.0001
/i/	0.0796	0.0082	9.6700	0.0001
/o/	-0.3205	0.0082	-39.1600	0.0001
/u/	-0.4232	0.0108	-39.2900	0.0001
District (reference level: Caridad)				
San Roque	-0.0153	0.0354	-0.4300	0.5758
Duration (normalized)	0.0192	0.0035	5.5100	0.0001
Open syllable (reference level: no)				
yes	-0.0044	0.0043	-1.0200	0.3158
Following segment (reference level: pause)				
voiced	-0.0088	0.0071	-1.2300	0.2168
voiceless	-0.0036	0.0068	-0.5300	0.5824
Stress:Position				
unstressed:final	0.0678	0.0078	8.7300	0.0001
Position:Vowel				
final:/e/	-0.0226	0.0121	-1.8600	0.0694
final:/i/	-0.0222	0.0123	-1.8100	0.0752
final:/o/	-0.0453	0.0096	-4.7200	0.0001
final:/u/	-0.0040	0.0253	-0.1600	0.8870
Vowel:District				
/e/:San Roque	-0.0574	0.0091	-6.2800	0.0001
/i/: San Roque	-0.0954	0.0080	-11.9900	0.0001
/o/:San Roque	0.0038	0.0082	0.4700	0.6414
/u/:San Roque	-0.0260	0.0100	-2.6000	0.0082
Position:District				
final: San Roque	-0.0129	0.0076	-1.7000	0.0898
Stress:Vowel				
unstressed:/e/	0.0407	0.0094	4.3300	0.0001
unstressed:/i/	0.0115	0.0090	1.2900	0.1818
unstressed:/o/	-0.0129	0.0076	-1.7000	0.0920
unstressed:/u/	0.1330	0.0126	10.5300	0.0001
Position:Vowel:District				
final:/e/:San Roque	0.0220	0.0144	1.5300	0.1242
final:/i/:San Roque	0.0079	0.0141	0.5600	0.5642
final:/o/:San Roque	0.0320	0.0112	2.8500	0.0032
final:/u/:San Roque	0.0338	0.0279	1.2100	0.2202

Table 23. Summary of the final linear mixed effects regression model showing fixed effect

predictors of vowel dispersion in the word list task

Vowel category was another significant predictor of dispersion. With /a/ as the reference level, /e/ (pMCMC = 0.0001), /o/ (pMCMC = 0.0001), and /u/ (pMCMC = 0.0001) tend to be less dispersed from the center of the vowel space, but /i/ is more dispersed (pMCMC = 0.0001). Vowel category also interacts with position and stress. There is less dispersion in final position for /a/, but this effect is more pronounced for /o/ (pMCMC = 0.0001). The dispersion of /a/ also decreases when it is unstressed, but it increases for unstressed /u/ (pMCMC = 0.0001) and also increases slightly for unstressed /e/ (pMCMC = 0.0001).

Vowel duration is also correlated with dispersion (pMCMC = 0.0001), as found in 6.3.4. Longer vowels are more dispersed. The factors of following segment and open syllable also improved the model. However, the trends of less dispersion in open syllables and before voiced or voiceless segments were not significant (pMCMC > 0.05).

San Roque tends to have less dispersion compared to Caridad, but this main effect is not significant (pMCMC > 0.05). However, district interacts with position and vowel category. With respect to vowel category, /e/ (pMCMC = 0.0001), /i/ (pMCMC = 0.0001), and /u/ (pMCMC < 0.01) are less dispersed in San Roque than in Caridad. There is also a three-way interaction such that the dispersion of final /o/ in San Roque is significantly less reduced than it is in Caridad (pMCMC < 0.01).

6.4 Word list task: Discussion

Taken together, the results of the different kinds of measurements in this task show the role that prosody plays in conditioning the vowels in Cavite Chabacano. At the lexical level, stress is realized in the same way across districts. The vowels in this task had greater dispersion and duration when they are stressed, and were significantly reduced spectrally and temporally when they were unstressed. Both districts have considerable overlap between the high and mid vowel categories in unstressed contexts, which is partly a result of this spectral and temporal vowel reduction in unstressed contexts.

This task consisted of one-word utterances, but phrase-level prosody seems to have played an important role in how the vowels were realized. Both districts had significantly longer vowels in final position regardless of stress. Vowel quality varied not only at the lexical level depending on stress, but also at the phrase level depending on position. While vowel dispersion was found to be generally reduced in unstressed syllables, unstressed final vowels have significantly greater dispersion compared to unstressed nonfinal vowels.

The phonetic analysis of the height of the mid vowels and the overlap between the mid and high vowel categories shows that while previous phonological descriptions are correct that there are dialect differences between Caridad and San Roque (German 1932, Ramos 1963), the patterns are more complex than what has previously been described. First, both districts actually have overlap between the mid and high vowel categories, but

it occurs to different degrees in different prosodic conditions. Second, the patterns of overlap with the high vowels are not the same for /e/ and /o/ in either district.

The analysis of the F1 measurements for /e/ and /o/ confirm that San Roque does have significantly higher mid vowels compared to Caridad in unstressed final position, as German (1932), Miranda (1956), and Romanillos (2006) observed. However, it is not the case that San Roque has mid vowel raising and Caridad does not. Caridad has also higher /e/ and /o/ in unstressed compared to stressed syllables, but to a lesser degree. For both districts, some of the raising can probably be attributed to unstressed vowel reduction, especially in nonfinal position. Unstressed nonfinal /e/ and /o/ are not only raised in both districts, but also centralized in terms of their F2 measurements. For the unstressed final mid vowels, there is a slight difference in how /e/ and /o/ are realized. In both districts, unstressed final /o/ is higher and more front than it is in other conditions, but unstressed final /e/ is not centralized. In San Roque, /e/ is actually more peripheral in terms of its F2 measurements when it is unstressed and final.

The vowel category overlap percentages, which take into account F1 and F2, also show the dialectal similarities and differences in how much the mid and high vowel categories overlap in each district. Overall, the patterns in San Roque and Caridad are similar. For the front vowel subsystem in both districts, there is complete overlap between /i/ and /e/ in unstressed syllables, and there is no overlap in stressed syllables. In comparison to the front vowels, the back vowel system in both districts has much more overlap across prosodic conditions. Overlap between /u/ and /o/ is higher in unstressed

than in stressed syllables. However, even stressed /u/ and /o/ have complete or partial overlap in different syllable positions.

The vowel category overlap graphs for /e/ and /i/ in 6.3.2.1 suggested that San Roque has more overlap than Caridad along the F1 dimension, which was confirmed in the statistical analysis of the F1 measurements. However, while San Roque consistently has more overlap in the front vowel subsystem than Caridad does in each prosodic condition, this effect does not hold for the back vowel system. The degrees of overlap for /u/ and /o/ in each district are more similar, with Caridad actually having slightly more overlap in stressed, unstressed, and nonfinal conditions.

While the overlap of the front vowels can be attributed to the raising of /e/ in unstressed contexts, especially in final position, the pattern with the back vowels is not due so much to the raising of /o/ as it is to the generally smaller acoustic space of the back vowels. The statistical analysis of F1 showed that /o/ is raised in unstressed position, and that San Roque raises /o/ particularly in unstressed final position. However, the vowel plots in Figures 11 and 12 (section 6.3.1) showed that /u/ was much lower than /i/ in both districts, and there was generally less distance between the mid and vowel categories for the back vowels compared to the high vowels. The vowel category overlap calculations also show complete overlap of /u/ and /o/ in both districts even in stressed contexts.

6.5 Carrier phrase task: Methods

As described in Chapter 4, this task was designed to complement the data obtained from the word list task by eliciting vowel tokens from utterances longer than one word, and by providing a more balanced sample of tokens in each vowel category. Recording conditions were the same as described in the general overview of field methods (Chapter 4.2).

6.5.1 *Participants*

There were a total of 15 participants: 9 from San Roque (6 men, 3 women) and 6 from Caridad (2 men, 4 women). All of these participants also participated in the word list task. As Table 24 shows, the majority of the participants in the carrier phrase task were in their 50s. There are two reasons that this task skews younger compared to the word list task. First, the task was conducted only during the third trip to the field, which is when many of the younger participants were recruited to be in the study. Most of the older participants were already recorded during previous trips. Second, there was an attempt to include two more speakers in their 80s who had already participated in the other tasks, but they declined to participate in this one because although the sentences in the task were grammatical in Cavite Chabacano, they found them to sound “very awkward” (in one person’s words) or too unnatural.

District	40-49	50-59	60-69	70-79	80-87	Total
Caridad	1	4	1	2	1	9
San Roque	0	4	2	0	0	6
Total	1	8	3	2	1	15

Table 24. Participant ages by district in the carrier phrase task

Table 25 summarizes the education levels of the participants in this task. The majority of participants had a college degree, and everyone had at least a high school diploma. One participant had a law degree.

District	High school	College	Graduate	Total
Caridad	1	5	0	6
San Roque	4	4	1	9
Total	5	9	1	15

Table 25. Participant educational backgrounds (highest level completed) by district in the carrier phrase task

In addition to Chabacano, all participants also speak Tagalog and English fluently. Only one participant in this task, the eldest, reported having any level of Spanish fluency. Many of the other participants took Spanish classes in college when they used to be required, but they report that they have no proficiency in the language.

6.5.2 Elicitation

Like the word list task, the carrier phrase task was presented to participants on PowerPoint slides on a 10-inch laptop screen. The speakers read a series of words in the carrier phrases *Habla “_____”* and *Habla “_____” con eli* (‘Say _____’ and ‘Say _____ to him’), with different target words used to fill in the blanks. I chose to use Power Point slides with one sentence per slide, rather than a written list, in order to be able to better control the tempo of the participant’s reading. This presentation of the sentences ensured that each one was read with pauses before and after it. The sentences were written in size 40 font to make the task easier for participants with weak vision. Participants were shown example sentences to read before beginning the task, and were instructed that they would encounter target words that looked similar to each other but had different stress (indicated to them by accent marks) and different meanings. Examples of the slides, including the instructions slide, are given in Appendix A.

There were 20 bisyllabic target words in this task, with each of the five vowels represented in each prosodic condition: stressed and unstressed, ultimate and penultimate syllable position, and phrase-final and nonfinal. The *Habla “_____”* sentences were meant to elicit stressed and unstressed vowels in phrase-final position, and the *Habla “_____” con eli* sentences were meant to elicit the same target words with stressed and unstressed vowels in nonfinal position. The carrier phrases were presented in pairs (e.g. *Habla “metal”* ‘Say metal’ followed by *Habla “metal” con eli* ‘Say metal to him’). Each target word was repeated in these pairs three times, and the pairs were presented in mixed order (see Appendix A for the full list in the order that the participants read them).

Efforts were made to choose target words that were minimal or near minimal pairs both segmentally and in terms of stress, but this was not always possible, especially for the series targeting ultimate vowels. I also aimed to choose words with open syllables, but in two cases had to choose words with coda consonants in order to find near minimal pairs (*metal* ‘metal’ and *moral* ‘moral’). However, these coda consonants are not in the target syllable and thus should not greatly affect the duration or spectral measurements of the target vowel.

Table 26 shows a list of the target words, written the way they were presented on the PowerPoint slides. Standard orthography in Spanish or Tagalog, or spellings from Chabacano dictionaries, was not always followed because knowing that most participants were not accustomed to reading and writing in Chabacano and were not familiar with any standard Spanish or Chabacano orthography, I chose to use accent marks to attempt to differentiate the minimal pairs.⁵⁰ For example, *casa* was used for ‘house’ but *casá* for ‘to marry’. *Cási* ‘almost’ (< Sp. *casi*) was spelled with the <c> of Spanish, but with a nonstandard accent mark on the penultimate syllable to maximize differentiation from *kasi* ‘because’ (< Tag. *kasi*). These different spellings were used because in the initial elicitation sessions, recognition proved difficult for words spelled exactly the same way or that differed only by an accent mark. In general, except for in *cási*, accent marks were used to indicate ultimate stress. However, I did follow Spanish conventions and Escalante’s (2010) proposed Chabacano orthography by not using an accent mark to

⁵⁰ It should be noted that this tactic was not particularly successful. In retrospect, it would have been more helpful to use pictures along with the sentences, but that also would have been difficult to do for some of the target words (e.g. *cási* ‘almost’ or *moral* ‘moral’).

indicate ultimate stress in the words *metal* ‘metal’ and *moral* ‘moral’. Spanish words ending in a consonant predictably have ultimate stress (Hualde 2005:222-223), and Cavite Chabacano almost always preserves that pattern.

Target vowel	Stressed	Unstressed
Penultimate		
/i/	<i>misa</i> ‘Mass’	<i>mirá</i> ‘to look’
/e/	<i>mesa</i> ‘table’	<i>metal</i> ‘metal’
/a/	<i>masa</i> ‘dough’	<i>masá</i> ‘to mash, knead’
/o/	<i>moda</i> ‘style, trend’	<i>moral</i> ‘moral’
/u/	<i>musa</i> ‘muse’	<i>muhá</i> ‘to get wet’
Ultimate		
/i/	<i>kasí</i> ‘because’	<i>cási</i> ‘almost’, <i>taxi</i> ‘taxi’
/e/	<i>kapé</i> ‘coffee’	<i>base</i> ‘base’
/a/	<i>kasá</i> ‘to marry’	<i>casa</i> ‘house’
/o/	<i>pasó</i> ‘passed’, <i>pasó</i> ‘flower pot’	<i>paso</i> ‘step’
/u/	<i>nakú</i> ‘oh my’	<i>datu</i> ‘chief’

Table 26. Target words in the carrier phrase task

There are two alternatives for two of the target vowels, /o/ in ultimate stressed position and /i/ in ultimate unstressed position. For ultimate stressed /o/, both /pa'so/ ‘passed’ and /pa'soʔ/ ‘flower pot’ were elicited. When making the list of target words I chose *pasó* (< Sp. *pasó* ‘passed’) not realizing that there was also a Tagalog word *paso*. The Tagalog word is usually written without an accent mark but also has ultimate stress and a word-final glottal stop.⁵¹ Many speakers did not recognize *pasó* ‘passed’ as a Chabacano word, but instead interpreted that word as *paso* ‘flower pot’, so I chose to

⁵¹ Some dictionaries (e.g. English 2008) write this word as *pasó*, with the circumflex indicating that the vowel is stressed and followed by a glottal stop. However, this diacritic is not normally used in Tagalog outside of dictionaries.

accept either word in the task.⁵² After the first few elicitation sessions, I also had to start using *taxi* /'taksi/ 'taxi', which also has unstressed ultimate /i/, to supplement the target word *cási* 'almost' because there were too few responses for that target vowel. Although a native Chabacano speaker suggested *casi* /'kasi/ 'almost' to me as a good minimal pair for *kasi* /ka'si/ 'because', it appears to no longer be in common usage ("that's an ancient word already", according to one participant). Most participants did not recognize it as a Chabacano word.

Table 27 summarizes the distribution of the five vowels according to stress and syllable position. Although the task was set up to elicit each vowel in each of the four prosodic conditions (stressed ultimate, stressed penultimate, unstressed ultimate, and unstressed penultimate) three times each, the numbers in each cell are not exactly even because there were instances when participants did not recognize a word (e.g. *casi* 'almost' and *pasó* 'passed'), when they had trouble differentiating between minimal pairs like *masa* 'dough' and *masá* 'to knead',⁵³ or when there was background noise making tokens unusable.

⁵² *Paso* meaning 'flower pot' is not an ideal target word because it has a word-final glottal stop, whereas the rest of the words have open syllables. However, I chose to keep using it since the glottal stop is often deleted (see Chapter 5), and it was difficult to find a better minimal pair.

⁵³ During elicitation, I sometimes suspected that the participants were producing a word in a minimal pair that was not the target for that sentence (e.g. *mása* 'dough' instead of *masá* 'knead'), based on my perception of which syllable they stressed (which was usually correct). In such cases, I asked them to say in English which target word they had just read. If their translation matched the intended target I moved on to the next sentence, but if the translation did not match I asked them to repeat the sentence with the other word instead.

Vowel	Penultimate		Ultimate		Total
	+stress	-stress	+stress	-stress	
/a/	133	103	88	116	440
/e/	91	89	87	90	357
/i/	89	155	92	97	413
/o/	90	111	88	104	393
/u/	91	91	89	89	360
Total	494	549	444	496	1,963

Table 27. Distribution of vowel tokens by stress and position in the carrier phrase task

6.5.3 Coding of linguistic factors

The coding of linguistic factors for the carrier phrase task was similar to that of the word list task, but with a few key differences. Table 28 summarizes the linguistic factors considered in the carrier phrase task.

Factors	Levels
Vowel	/i/, /e/, /a/, /o/, /u/
Word	(see Table 26 for the full list)
Stress condition	Stressed, unstressed
Syllable position within the word	Penultimate, ultimate
Phrasal position of the word	Nonfinal word, phrase-final word
Following segment	/s/, /d/, /t/, /p/, /h/, /r/, /ʔ/, _#
Word origin	CS (Chabacano < Spanish) CT (Chabacano < Tagalog) CST (Chabacano < Spanish and Tagalog)

Table 28. Linguistic factors coded in the carrier phrase task

One key difference from the word list task is that the utterances are longer than one word, so the factor of phrasal position was coded separately from syllable position within the

word. Nonfinal words were in the *Habla _____ con eli* ‘Say _____ to him’ carrier phrase, and final words were in the *Habla _____* ‘Say _____’ carrier phrase. This task had only 20 target words, which were bisyllabic, so there are only two levels for the factor of syllable position with the word, penultimate and ultimate. Only words of CS, CT, and CST origin were used in this task, and the segmental environment was more tightly controlled than in the word list task, meaning that there is less variation in the following segments.

6.5.4 Coding of social factors

The coding of social factors in the carrier phrase is summarized below in Table 29. The coding was similar to the coding of social factors for the word list task (Table 14). However, because there were fewer participants, there are fewer levels for education, and the age range is more narrow. Spanish fluency was not included because only one person in this task reported having any level of proficiency. There were no participants from the San Antonio district.

Factors	Levels
Speaker	15 speakers (see 6.5.1)
District	San Roque, Caridad
Gender	Male, female
Age	48-87
Education level (highest completed)	High school, college, graduate school

Table 29. Social factors coded in the carrier phrase task.

6.5.5 *Measurements, normalization, and statistical analysis*

The target words from the carrier phrase task were segmented with the assistance of three undergraduate interns, using the same criteria for segmentation that were used for the word list task. These three interns also assisted in segmenting the word list task.

As in the word list task, the F1, F2, and duration values were normalized using the techniques described by Wassink (2006), and these normalized measurements were also used to calculate vowel category overlap, using Wassink's methods and software. The normalized F1 and F2 measurements were also used to calculate vowel dispersion. The F1, F2, duration, and dispersion data from this task were analyzed using linear mixed-effects regression modeling.

6.5.6 *Checking the reliability of phonetic measurements*

To check the reliability of the measurements, the same procedures used in the word list task were followed for the carrier phrase task. Tokens with non-normalized F1 and F2 measurements exceeding two standard deviations from the mean were considered to be outliers and re-checked by hand. Outliers considered to be the product of normal variation (e.g. exceptionally reduced or raised vowels) were left unchanged, and outliers that were the result of errors in Praat were hand-corrected. Table 30 summarizes the reliability check for the F1 and F2 outliers. The table lists the total number of outliers for each set of measurements and their percentage out of the total dataset, the number of outliers that were found to be errors and corrected, and the number of outliers that were found not to be errors and were left unchanged.

	Outliers (out of 1,963 tokens)	Corrected	Not found to be errors
F1	51 (2.6% of the sample)	30 (58.8%)	21 (41.2%)
F2	68 (3.5% of the sample)	46 (67.4%)	22 (32.4%)

Table 30. Summary of the reliability check of the F0, F1, and F2 measurement outliers in the carrier phrase list task

Inter-coder reliability among the three interns and myself was checked following the same procedures used for the word list (Clopper 2011). A script was used to randomly choose 60 tokens originally coded by each of the three assistants to segment and measure again. The vowel tokens were evenly distributed across prosodic conditions. Reliability between coders was considered good if the absolute difference between the original set of measurements and the new set of measurements was within 1-2% of the mean of the original set. Table 31 summarizes the checking of the F1, F2, and duration measurements for each coding assistant, listing the mean of the original set of measurements, the mean of the new set of measurements, and the absolute difference between them. The absolute differences fell within the 1-2% range or better for each set listed in the table, so the measurements were considered reliable.

	Coder 1	Coder 2	Coder 3
F1 (Hz)			
Mean 1	502.7	561.5	520.9
Mean 2	501.0	563.9	523.4
Absolute difference	1.7	2.4	2.5
F2 (Hz)			
Mean 1	1492.3	1627.1	1532.6
Mean 2	1495.0	1625.2	1537.9
Absolute difference	2.7	1.9	5.2
Duration (ms)			
Mean 1	110.9	159.4	126.1
Mean 2	108.5	157.4	125.9
Absolute difference	2.4	2.0	0.2

Table 31. Summary of the inter-coder reliability check for F0, F1, F2, and duration measurements in the carrier phrase task

6.6 Carrier phrase task: Results

6.6.1 *F1 x F2 vowel plots*

Figure 21 shows plots comparing vowel measurements from the San Roque and Caridad dialects of Cavite Chabacano in nonfinal and phrase-final words, based on mean normalized F1 x F2 values for each vowel category in this task. The plots do not distinguish between different prosodic conditions. F1 and F2 measurements were taken from the vowel midpoint and normalized as described in 6.5.5.

Overall, the two plots in Figure 21 are similar. It appears that both dialects have greater vowel dispersion in phrase-final words, especially along the F2 dimension. Caridad seems to have slightly more dispersion compared to San Roque. Phrase-final vowels in Caridad seem to be dispersed in terms of F1 as well as F2. It also appears that

both dialects have some overlap between the high and mid vowel categories, but for Caridad there seem to be fewer tokens of /e/ with low F1 in phrase-final words.

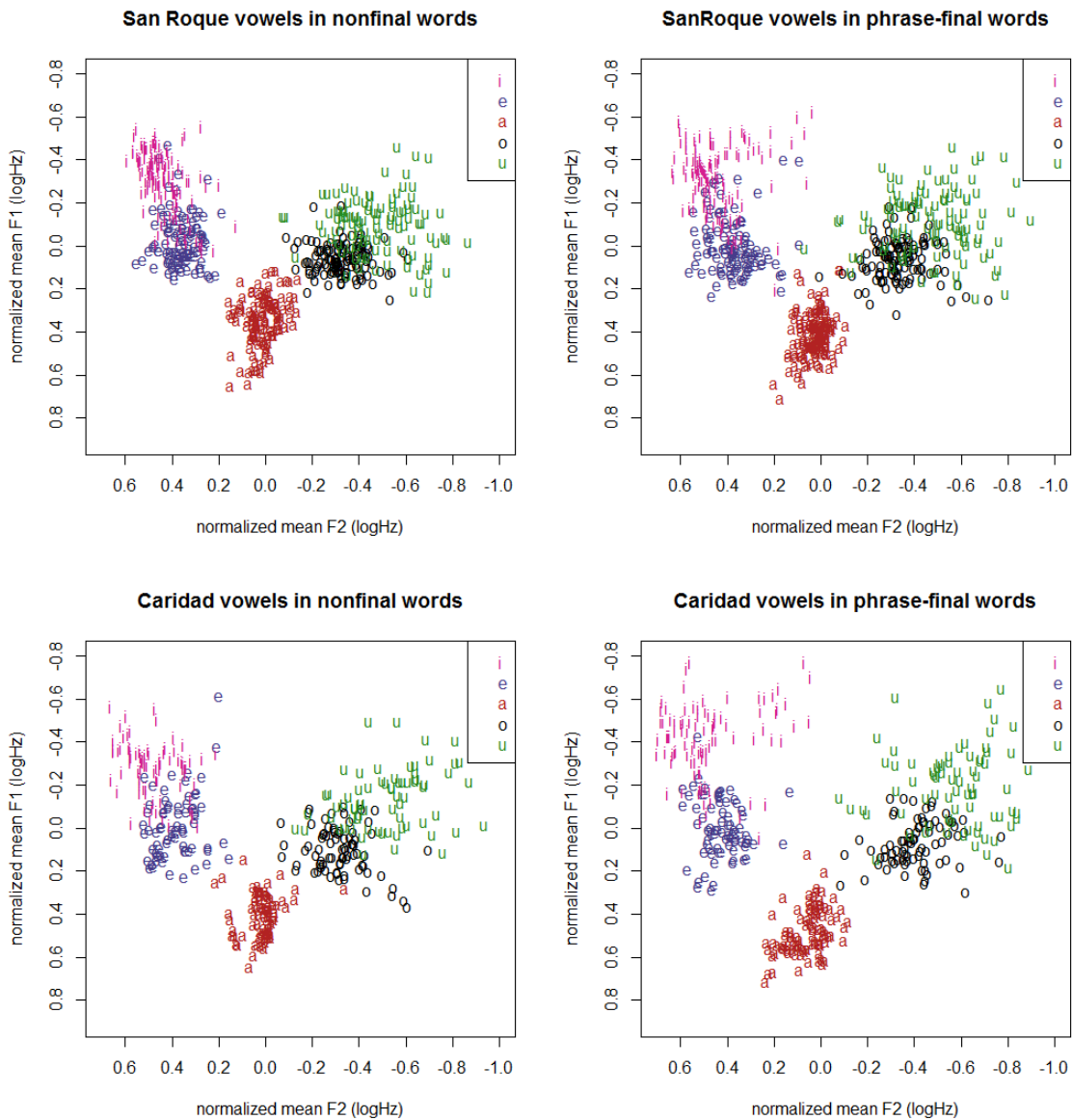


Figure 21. San Roque and Caridad vowels in nonfinal and phrase-final words, based on normalized F1 x F2 values from the carrier phrase task

In order to view differences between the vowels in different prosodic conditions in the two phrasal contexts, vowel category F1 and F2 means for each prosodic condition are plotted for each district in Figure 22. Penultimate vowels are blue and ultimate vowels are red. Stressed vowel categories are marked with a box.

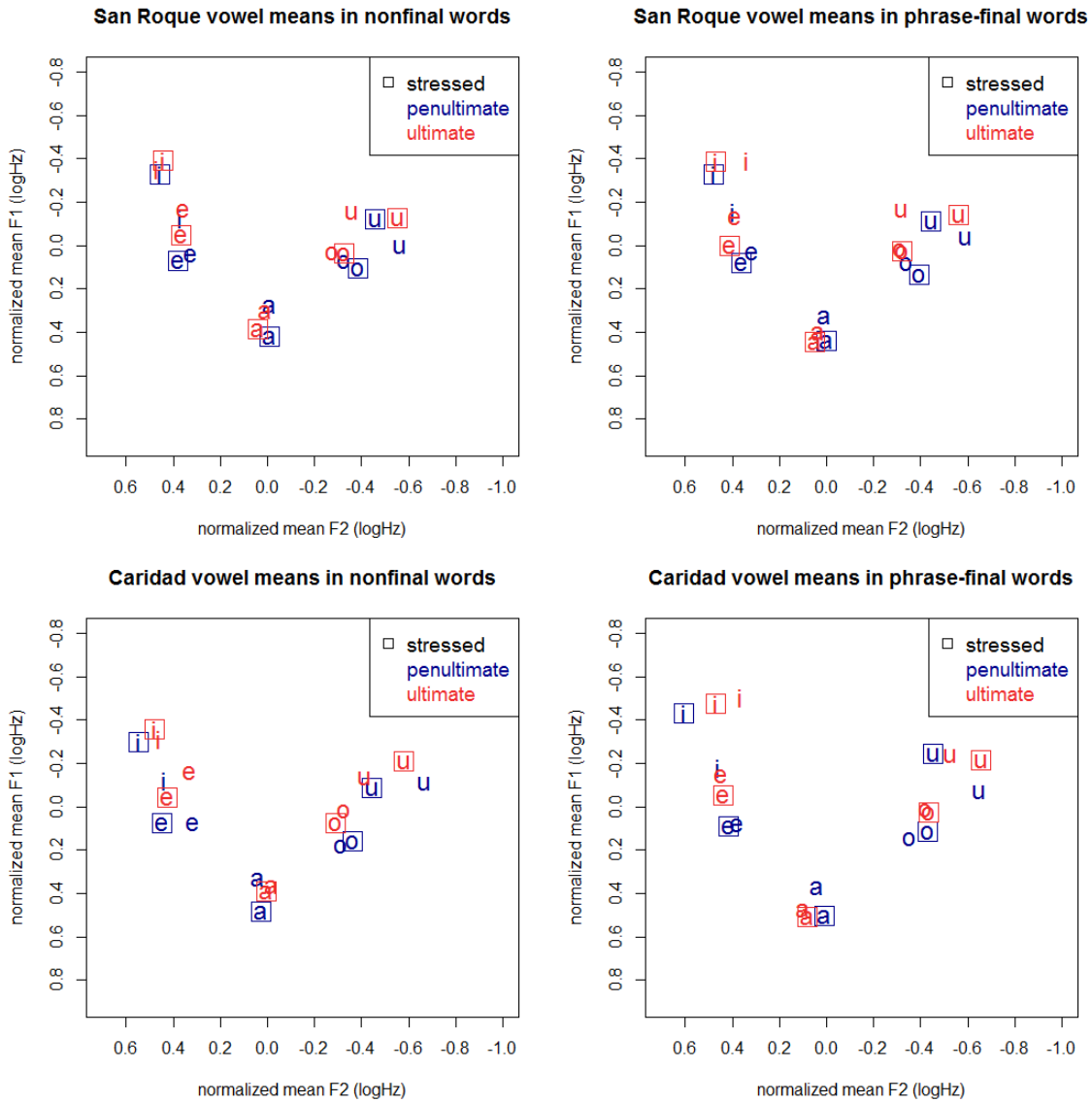


Figure 22. Vowel category means for San Roque and Caridad in different prosodic conditions from the carrier phrase task

The plots in Figure 22 suggest that some of the overlap between the high and mid vowels in Figure 21 is due not only to some slight raising of /e/, but also some lowering of /i/. Compared to /i/ in other prosodic positions, penultimate unstressed /i/ was lowered in San Roque and Caridad in both nonfinal and phrase-final words. There is slight raising of ultimate unstressed /e/ in both districts and both word positions. Unlike in the word list task, San Roque does not appear to raise ultimate unstressed /e/ in comparison to /e/ in other conditions much more than Caridad does. As in Figure 21, both districts seem to have slightly more dispersed vowels in phrase-final words. Caridad seems to have particularly high /i/ in stressed penultimate, stressed ultimate, and unstressed ultimate positions in phrase-final words. It appears that both districts might have slightly less vowel dispersion in unstressed compared to stressed contexts in nonfinal words, but statistical analysis is needed to test whether this is the case.

The patterns visible in Figures 21 and 22 are analyzed further in the following subsections so that the reduction or dispersion of the vowels, raising of the unstressed mid vowels, and degrees of vowel category overlap in different prosodic conditions can be described and quantified in more detail. Statistical analysis shows the dialectal similarities or differences in how the vowels pattern in different contexts. Analysis of the duration measurements is also used to investigate how prosody affects vowel realization in both districts.

6.6.2 *Vowel category overlap*

As in the word list task, spectral and temporal overlap between the front vowel categories and between the back vowel categories was analyzed using the methodology from Wassink (2006; see section 6.2.5.3). The results presented in this section describe how the high vowels and mid vowels are situated in relation to each other in the vowel space under different prosodic conditions. The category overlap analysis for this task differs slightly from the word list task because in addition to examining the vowels in different syllable positions (penultimate and ultimate), they were also analyzed in words from two phrasal positions: nonfinal word in the *Habla _____ con eli* ‘Say _____ to him’ sentences and phrase-final word in the *Habla _____* ‘Say _____’ sentences.

6.2.2.1 Overlap of /i/ and /e/

Vowel category overlap percentages for /i/ and /e/ were calculated for Caridad and San Roque. The overlap percentages were calculated first with all tokens of /i/ and /e/ together, and then in subsets of different prosodic conditions: stressed and unstressed conditions, penultimate and ultimate syllable position, phrase-final and nonfinal word position, and combinations of these different prosodic conditions.

Table 32 summarizes the degrees of vowel category overlap in these different conditions. An overlap percentage of 0-20% indicates no overlap in vowel categories, 20-40% indicates partial overlap, and over 40% indicates complete overlap. The vowel category overlap percentages in the table are two dimensional (normalized F1 x F2).

	Caridad	San Roque
Overall	2D 37%	2D 38%
Nonfinal words	49%	34%
Stressed	11%	0%
Unstressed	43%	67%
Penultimate	33%	19%
Ultimate	54%	21%
Unstressed penultimate	24%	76%
Unstressed ultimate	46%	42%
Stressed penultimate	1%	0%
Stressed ultimate	18%	0%
Phrase-final words	32%	38%
Stressed	0%	0%
Unstressed	67%	66%
Penultimate	18%	49%
Ultimate	20%	37%
Unstressed penultimate	30%	24%
Unstressed ultimate	41%	78%
Stressed penultimate	0%	0%
Stressed ultimate	3%	10%

Table 32. 2D (normalized F1 x F2) vowel overlap percentages for /i/ and /e/ in Caridad and San Roque under different prosodic conditions in the carrier phrase task

Caridad and San Roque both have overall similar percentages across all prosodic conditions. Caridad has 37% overlap and San Roque has 38%, which are both classified as partial overlap. This result is quite different from the word list task, in which Caridad had partial overlap (35%) and San Roque had complete overlap (52%). However, there are some dialectal differences in how much overlap they have in the different conditions in this task. Caridad has complete overlap between /i/ and /e/ in nonfinal words (49%) and partial overlap in phrase-final words (32%). San Roque has partial overlap in both of those conditions, but slightly more in phrase-final (38%) than in nonfinal position (34%).

The overlap between /i/ and /e/ in nonfinal and phrase-final conditions is shown in Figures 23 (Caridad) and 24 (San Roque). Red represents /i/, and blue represents /e/.

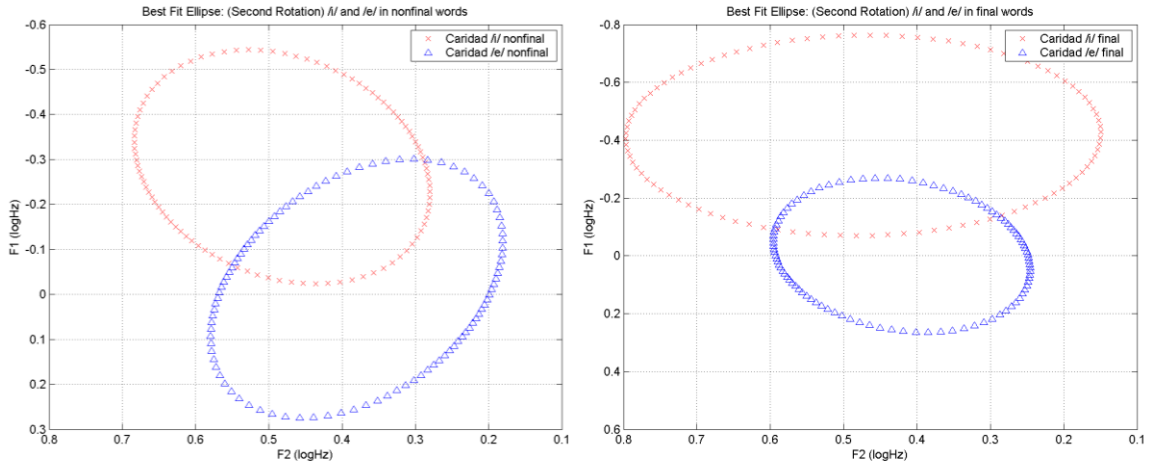


Figure 23. Caridad overlap between /i/ and /e/ across prosodic conditions in nonfinal words (left) and phrase-final words (right)

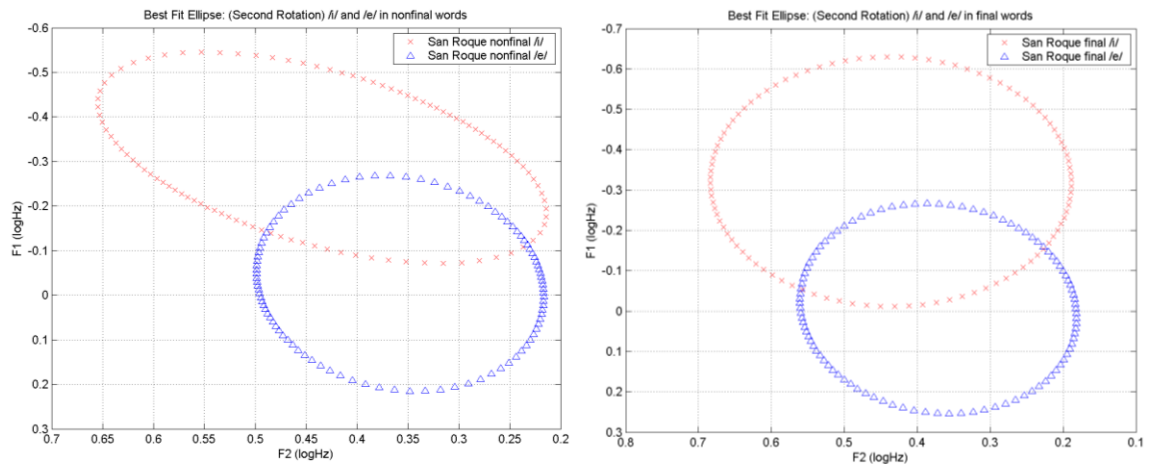


Figure 24. San Roque overlap between /i/ and /e/ across prosodic conditions in nonfinal words (left) and phrase-final words (right)

In nonfinal words, stressed vowels remain distinct in both districts. The overlap percentages between /i/ and /e/ in stressed penultimate position and in stressed ultimate position all fall into the no overlap category. Figures 25 (Caridad) and 26 (San Roque) show graphs of the overlap in stressed conditions in nonfinal and phrase-final words in each district. /i/ is represented by red in ultimate position and magenta in penultimate position, and /e/ is represented by blue in ultimate position and cyan in penultimate position.

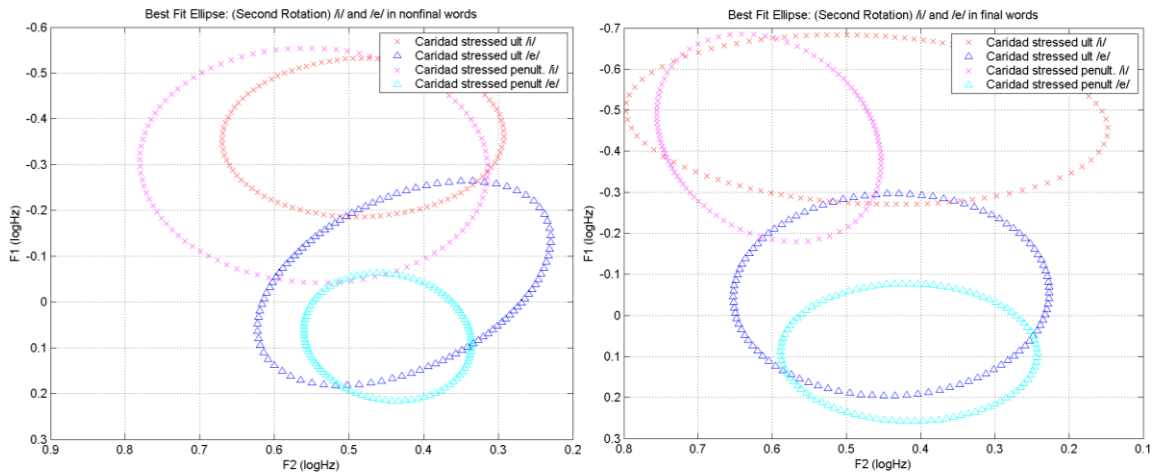


Figure 25. Caridad stressed penultimate and ultimate /i/ and /e/ in nonfinal and phrase-final words in the carrier phrase task

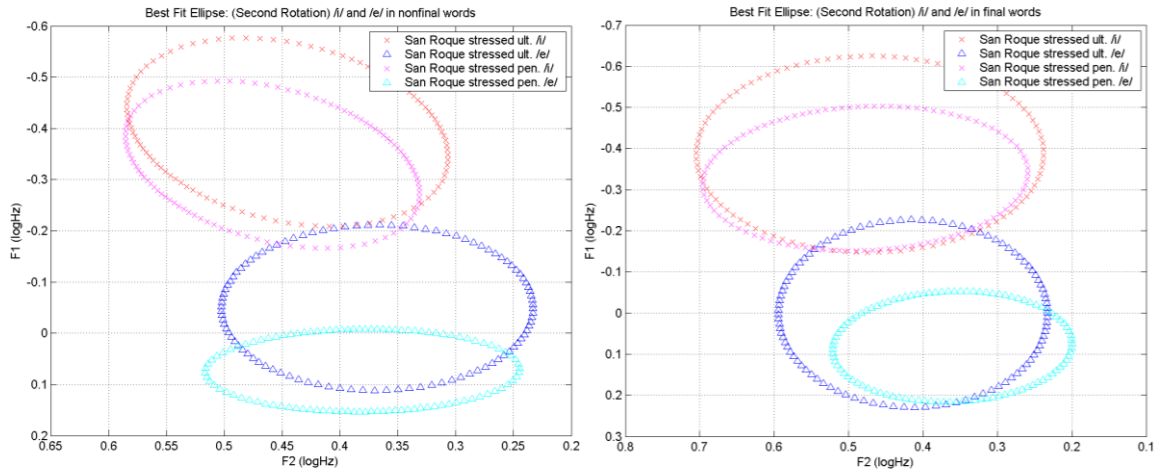


Figure 26. San Roque stressed penultimate and ultimate /i/ and /e/ in nonfinal and phrase-final words in the carrier phrase task

Both districts seem to have slightly shifted /i/ and /e/ values in the stressed contexts in final words in Figures 25 and 26. In Caridad, the stressed vowels in phrase-final words seem to be slightly higher than they are in nonfinal words. In San Roque, stressed vowels in final words are slightly more fronted than they are in nonfinal words.

In unstressed syllables, both districts have complete overlap between /i/ and /e/, but the patterns are somewhat different. San Roque has much more overlap (67%) in unstressed syllables than Caridad does (43%). While San Roque has higher overlap in unstressed penultimate position (76%) than in unstressed ultimate position (42%), Caridad has higher overlap in unstressed ultimate position (46%) than in unstressed penultimate position (24%). The patterns of overlap for unstressed penultimate and ultimate /i/ and /e/ in nonfinal and phrase-final words are shown in Figures 27 (Caridad)

and 28 (San Roque). /i/ is represented by red in ultimate position and magenta in penultimate position, and /e/ is represented by blue in ultimate position and cyan in penultimate position. Figures 27 (Caridad) and 28 (San Roque) show that the front vowels in both districts seem to have higher F1 in phrase-final than in nonfinal words.

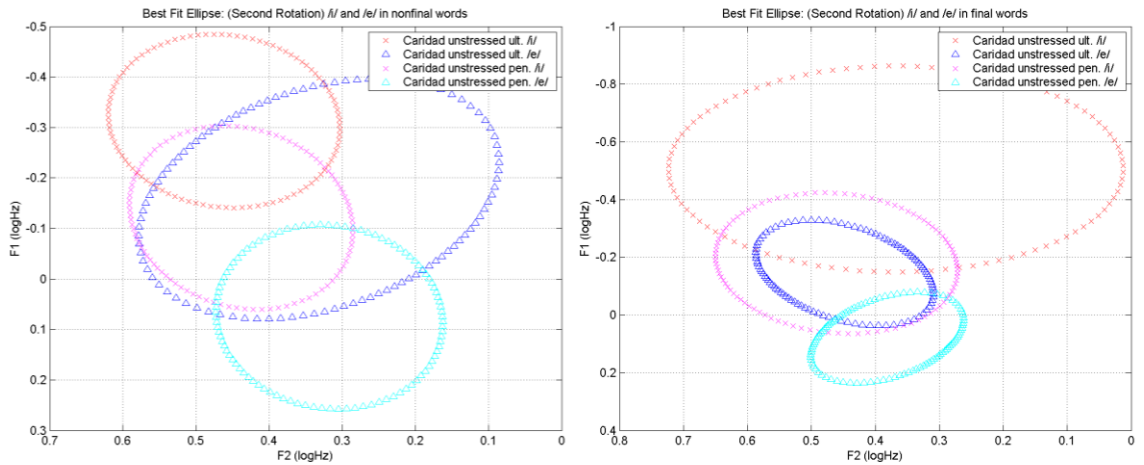


Figure 27. Caridad unstressed penultimate and ultimate /i/ and /e/ in nonfinal and phrase-final words in the carrier phrase task

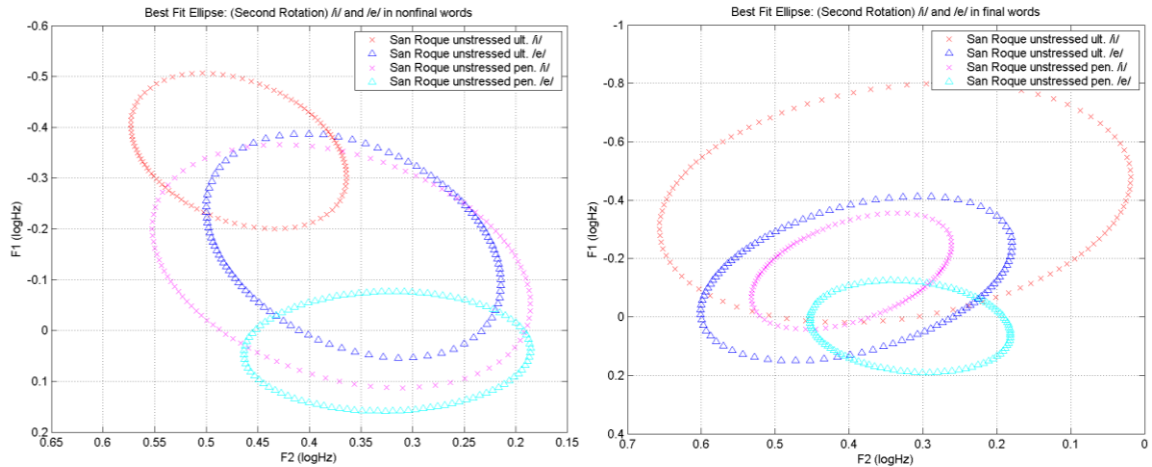


Figure 28. San Roque unstressed penultimate and ultimate /i/ and /e/ in nonfinal and phrase-final words in the carrier phrase task

The results of the vowel category overlap analysis suggest that while differences between districts in terms of the overall percentages of overlap between /i/ and /e/ in this task were not as great as in the word list task, San Roque still has more overlap in unstressed contexts, particularly in unstressed ultimate position in phrase-final words. Caridad also has complete overlap in some unstressed contexts. Statistical analysis of the F1, F2, and duration measurements in both districts is presented in the following subsections to investigate some of the patterns described here in more detail.

6.2.2.2 Overlap of /u/ and /o/

Vowel category overlap percentages for the back vowels were calculated for Caridad and San Roque. The overlap percentages were calculated first with all tokens of

/u/ and /o/ together, and then in subsets of different prosodic conditions: stressed and unstressed conditions, penultimate and ultimate syllable position, phrase-final and nonfinal word position, and combinations of these different prosodic conditions.

Table 33 summarizes the degrees of 2D (normalized F1 x F2) vowel category overlap in these different conditions. An overlap percentage of 0-20% indicates no overlap in vowel categories, 20-40% indicates partial overlap, and over 40% indicates complete overlap.

	Caridad	San Roque
	2D	2D
Overall	51%	74%
Nonfinal words	43%	73%
Stressed	41%	51%
Unstressed	45%	85%
Penultimate	52%	80%
Ultimate	29%	54%
Unstressed penultimate	19%	63%
Unstressed ultimate	58%	57%
Stressed penultimate	61%	53%
Stressed ultimate	0%	44%
Phrase-final words	60%	75%
Stressed	51%	52%
Unstressed	63%	96%
Penultimate	86%	82%
Ultimate	30%	65%
Unstressed penultimate	60%	85%
Unstressed ultimate	42%	68%
Stressed penultimate	63%	50%
Stressed ultimate	12%	35%

Table 33. 2D (normalized F1 x F2) vowel overlap fractions for /i/ and /e/ in Caridad and San Roque under different prosodic conditions

In the word list task, San Roque and Caridad had similar overlap percentages for /u/ and /o/ across prosodic conditions. San Roque has 66% overlap and Caridad has 67%. In this task, San Roque has 74% overlap and Caridad has 51%. Both percentages qualify as complete overlap. San Roque has nearly the same percentages of overlap in phrase-final words (74%) and nonfinal words (73%), but Caridad has more overlap in nonfinal words (43%) than in phrase-final words (60%). Figures 29 (Caridad) and 30 (San Roque) show these degrees of overlap between /u/ and /o/ in nonfinal words (left) and phrase-final words (right) in each district. Red represents /u/, and blue represents /o/.

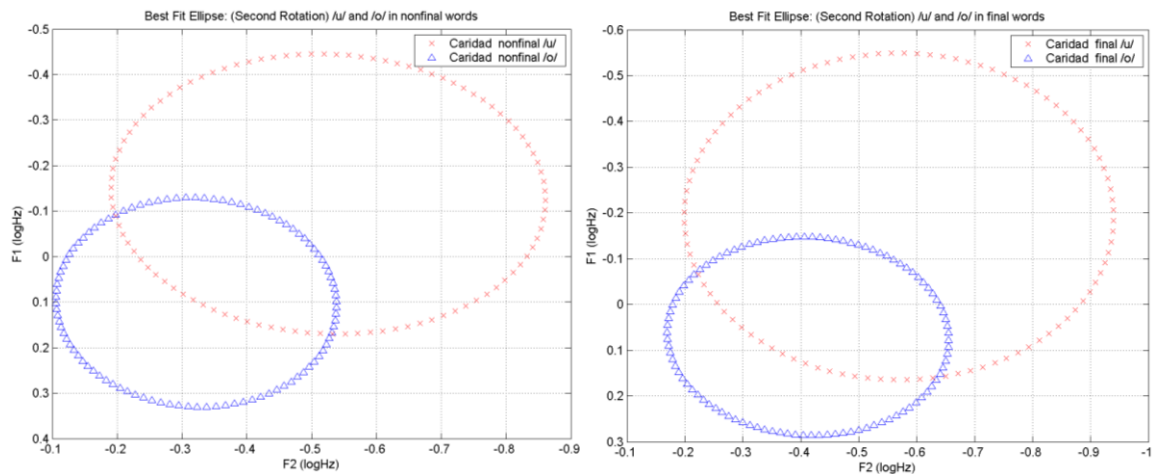


Figure 29. Caridad overlap between /u/ and /o/ across prosodic conditions in nonfinal words (left) and phrase-final words (right) in the carrier phrase task

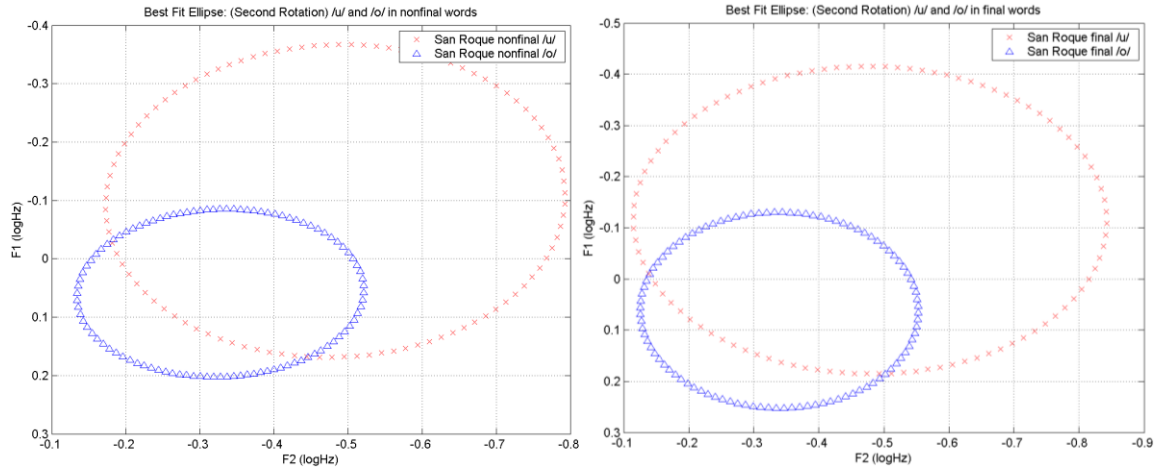


Figure 30. San Roque overlap between /u/ and /o/ across prosodic conditions in nonfinal words (left) and phrase-final words (right) in the carrier phrase task

Figures 29 and 30 show that /u/ in both districts takes up much more of the back vowel space compared to /o/, which has a smaller range of F2 and F1 values. The figures also show that /u/ seems to be more dispersed in nonfinal and phrase-final words in Caridad than in San Roque.

Both districts have less overlap between /o/ and /u/ in stressed conditions than in unstressed conditions, but the percentages are still high. In Caridad, there is 41% overlap between stressed /o/ and /i/ in nonfinal words, and 51% in phrase-final words. Most of that overlap is found in stressed penultimate position. In stressed ultimate position in nonfinal words, there is 0% overlap, and in phrase-final words there is 12% overlap, which is still low enough to be considered no overlap. In San Roque, the percentages of overlap between stressed /u/ and /o/ in nonfinal and phrase-final words is similar (51%

and 52%). Overlap for San Roque decreases somewhat in ultimate syllables of phrase-final words (35%).

These patterns of overlap in stressed contexts are shown in Figures 31 (Caridad) and 32 (San Roque). The graphs show the overlap of /u/ and /o/ in stressed conditions in nonfinal and phrase-final words in each district. /u/ is represented by red in ultimate position and magenta in penultimate position, and /o/ is represented by blue in ultimate position and cyan in penultimate position. The figures suggest that compared to San Roque, Caridad has slightly lower F1 values for /u/ and /o/ in both nonfinal and phrase-final words.

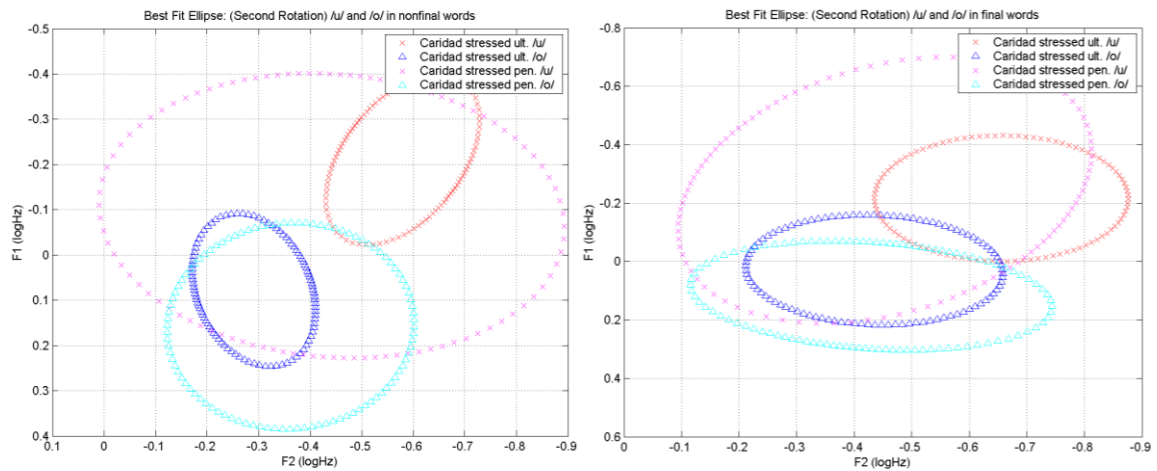


Figure 31. Caridad stressed penultimate and ultimate /u/ and /o/ in nonfinal (left) and phrase-final words (right) in the carrier phrase task

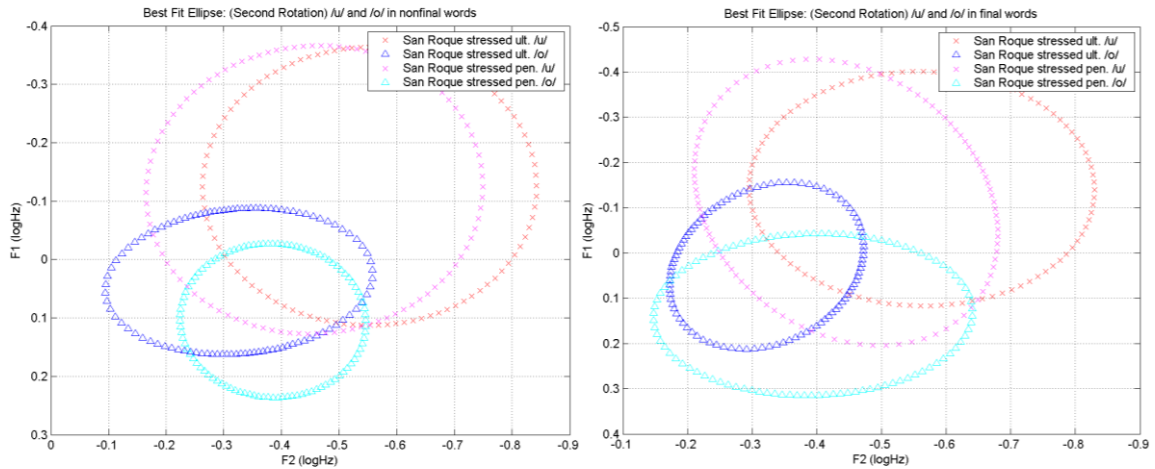


Figure 32. San Roque stressed penultimate and ultimate /u/ and /o/ in nonfinal (left) and phrase-final words (right) in the carrier phrase task

In unstressed contexts, San Roque has higher percentages of overlap than Caridad does, but both districts can be classified as having complete overlap. Caridad has 45% unstressed /u/ and /o/ overlap in nonfinal words, with higher overlap in unstressed ultimate (58%) than unstressed penultimate (19%) position. In phrase-final words, Caridad has 60% overlap in unstressed penultimate syllable and 42% in unstressed ultimate position. In contrast, San Roque has 85% overlap between unstressed /u/ and /o/ in nonfinal words and 96% overlap in phrase-final words. Overlap in San Roque is especially high in unstressed penultimate syllables in phrase-final words (85%).

These overlap patterns for unstressed /u/ and /o/ are shown in Figures 33 (Caridad) and 34 (San Roque). The ellipses for unstressed /u/ and /o/ in San Roque almost completely overlap in the phrase-final condition (Figure 34, right).

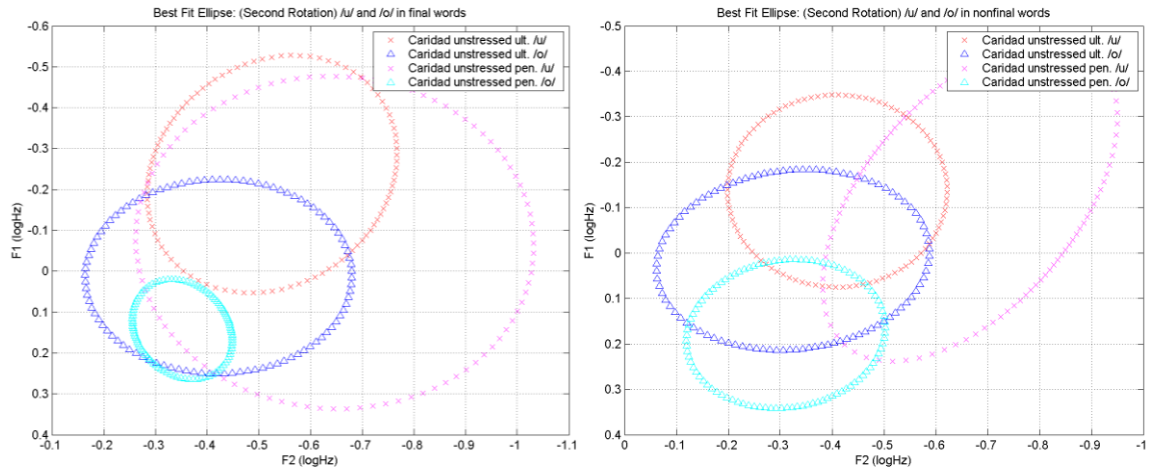


Figure 33. Caridad unstressed penultimate and ultimate /u/ and /o/ in nonfinal (left) and phrase-final words (right) in the carrier phrase task

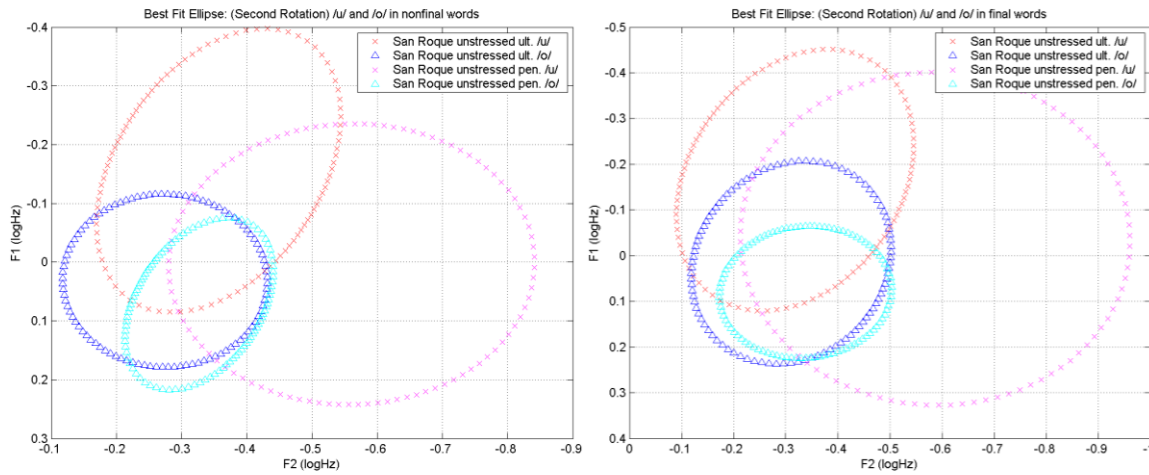


Figure 34. San Roque unstressed penultimate and ultimate /u/ and /o/ in nonfinal (left) and phrase-final words (right) in the carrier phrase task

Overall, the results of the vowel category overlap calculations for /u/ and /o/ in this task are similar to that of the word list task in that both districts have percentages in the range of complete overlap (> 40%) in most contexts. However, there is a difference from the word list task in that San Roque had more overlap compared to Caridad in this task. As in the word list task, there was much more overlap in both districts for the back vowels compared to the front vowels.

6.6.3 *F1 measurements*

6.6.3.1 Height of /e/

To determine which linguistic and social factors affected the height of /e/ in the Caridad and San Roque dialects in this task, a linear mixed-effects regression model of the predictors of normalized F1 was built by starting with the null model and stepping up by one factor or interaction at a time. The analysis was based on the 357 /e/ tokens from the San Roque and Caridad participants. Speaker and word were analyzed as having random intercepts, and these fixed effects were tested to determine if they improved the model: stress, syllable position, phrasal position of the target word, normalized vowel duration, word origin, district, gender, education, and age. Interactions between stress, syllable position, phrasal position, and district were also tested.

The fixed effects of the final model selected are summarized in Table 34. The fixed effects found to significantly improve the model were stress, syllable position, phrasal position, and duration. Interactions between stress and syllable position, syllable

position and vowel, vowel and phrasal position, and vowel, district, and phrasal position also improved the model. Age, gender, education, and word origin were not found to significantly improve the model. For the coefficients of the fixed effects in Table 34, lower estimates indicate greater height of /e/, and higher estimates indicate lower height of /e/.

Factors/levels	Estimate	Std. Error	t value	pMCMC
(Intercept)	0.06368	0.02101	3.03	0.1682
Syllable position (reference level: penultimate)				
ultimate	-0.1195	0.0275	-4.343	0.0988
Stress (reference level: stressed)	0.03044	0.02787	1.092	0.4758
unstressed				
Phrasal position (reference level: nonfinal word)				
phrase-final word	0.03017	0.01427	2.115	0.0326
Duration (normalized)	0.10726	0.02011	5.333	0.0001
Syllable position:Stress				
ultimate:unstressed	-0.0882	0.03633	-2.428	0.2464
Syllable position:Phrasal position				
ultimate:phrase-final	-0.0883	0.02804	-3.149	0.0020

Table 34. Summary of the final linear mixed effects regression model showing fixed effect predictors of vowel height (normalized F1) for /e/ in the carrier phrase task

Syllable position, stress, and the interaction between them significantly improved the model, but the pMCMC values do not reach significance (> 0.05). As for phrasal position, /e/ in phrase-final words has significantly higher F1 (pMCMC < 0.05). In other words, it is lower in height. However, phrasal position interacts with syllable position.

The height of /e/ in ultimate syllables in phrase-final words is significantly higher than it is in nonfinal position (pMCMC < 0.01). District was not significant as a main effect and did not significantly interact with stress, syllable position, or phrasal position. Caridad and San Roque both raised /e/ in the final syllable of the phrase in this task, as can be seen in the plots in Figure 26 (see 6.6.1). Duration was also correlated with the F1 of /e/. As vowel duration increases, the height of /e/ is lower (pMCMC < 0.0001).

6.6.3.2 Height of /o/

In addition to /e/, a similar analysis was done to test the predictors of the height of /o/. A linear mixed-effects regression model of the predictors of normalized F1 was built by starting with the null model and stepping up by one factor or interaction at a time. The analysis was based on the 393 /o/ tokens from the San Roque and Caridad participants. Speaker and word were analyzed as having random intercepts, and these fixed effects were tested to determine if they improved the model: stress, syllable position, phrasal position of the target word, normalized vowel duration, following context, word origin, district, gender, education, and age. Interactions between stress, syllable position, phrasal position, and district were also tested.

The fixed effects of the final model selected are summarized in Table 35. The fixed effects found to significantly improve the model were stress, syllable position, and interactions between stress, syllable position, and district also improved the model. Age, gender, education, word origin, duration, following context, and phrasal position were not found to significantly improve the model. For the coefficients of the fixed effects in

Table 35, lower estimates indicate greater height of /o/, and higher estimates indicate lower height of /o/.

Factors/levels	Estimate	Std. Error	t value	pMCMC
(Intercept)	0.13652	0.01778	7.677	0.0192
Syllable position (reference level: penultimate) ultimate	-0.0888	0.01733	-5.125	0.0814
District (reference level: Caridad) San Roque	-0.0163	0.02296	-0.712	0.4716
Stress (reference level: stressed) unstressed	0.02375	0.01787	1.329	0.4792
Syllable position:District ultimate:San Roque	0.00135	0.02207	0.061	0.978
Syllable position:Stress ultimate:unstressed	-0.0543	0.02454	-2.212	0.2902
District:Stress San Roque:unstressed	-0.0681	0.02305	-2.953	0.0028
Syllable position:District:Stress ultimate:San Roque:unstressed	0.08614	0.03152	2.733	0.0062

Table 35. Summary of the final linear mixed effects regression model showing fixed effect predictors of vowel height (normalized F1) for /o/ in the carrier phrase task

Syllable position, district, and stress significantly improved the model, but as main effects their pMCMC values did not reach significance (> 0.05). However, there were significant interactions involving district, stress, and syllable position. Unstressed /o/ is higher than stressed /o/ in San Roque (pMCMC < 0.01), but /o/ in ultimate position in San Roque is lower when it is unstressed (pMCMC < 0.01). Phrasal position was not significant as a main effect or in interactions with the other main effects.

6.6.4 *F2 measurements*

To determine whether any centralization of the vowels occurred in this task in terms of normalized F2 measurements, as was found in unstressed contexts in the word list task, a linear mixed-effects regression model was built by starting with the null model and stepping up by one factor or interaction at a time through model comparison. The analysis was based on 1,963 tokens from the San Roque and Caridad participants. Speaker and word were analyzed as having random intercepts, and these fixed effects were tested to determine if they improved the model: vowel category, stress, syllable position, phrasal position of the target word, normalized vowel duration, word origin, following context, district, gender, education, and age. Interactions between stress, syllable position, phrasal position, and district were also tested.

The fixed effects of the final model selected are summarized in Table 36. The fixed effects found to significantly improve the model were vowel category, syllable position, phrasal position, and district. Interactions between vowel category, phrasal position, and district also improved the model. Stress, age, gender, education, word origin, and following context were not found to significantly improve the model. For the coefficients of the fixed effects in Table 36, lower estimates indicate more back vowels, and higher estimates indicate more front vowels.

Factors/levels	Estimate	Std. Error	t value	pMCMC
(Intercept)	0.003468	0.031863	0.109	0.9184
Vowel (reference level: /a/)				
/e/	0.366906	0.042195	8.696	0.0001
/i/	0.457188	0.04027	11.353	0.0001
/o/	-0.33675	0.042026	-8.013	0.0001
/u/	-0.53827	0.042195	-12.757	0.0001
District (reference level: Caridad)				
San Roque	-0.00532	0.015381	-0.346	0.7154
Phrasal position (reference level: nonfinal word)				
phrase-final word	0.042339	0.016143	2.623	0.0084
Syllable position (reference level: penultimate)				
ultimate	0.019863	0.023242	0.855	0.3524
Vowel:District				
/e/:San Roque	-0.01765	0.022552	-0.783	0.4538
/i/:San Roque	-0.04408	0.021708	-2.03	0.0418
/o/:San Roque	0.000154	0.021889	0.007	0.9874
/u/:San Roque	0.047834	0.022439	2.132	0.0308
Vowel:Phrasal position				
/e/:phrase-final word	-0.00246	0.023925	-0.103	0.9346
/i/:phrase-final word	-0.05209	0.022907	-2.274	0.0192
/o/:phrase-final word	-0.13266	0.023532	-5.638	0.0001
/u/:phrase-final word	-0.08789	0.02396	-3.668	0.0004
District:Phrasal position				
San Roque:phrase-final word	-0.02674	0.020888	-1.28	0.201
Vowel:District:Phrasal position				
/e/:San Roque:phrase-final word	0.000356	0.031082	0.011	0.9932
/i/:San Roque:phrase-final word	0.036307	0.029865	1.216	0.227
/o/:San Roque:phrase-final word	0.10524	0.030377	3.465	0.0006
/u/:San Roque:phrase-final word	0.076014	0.031041	2.449	0.0146

Table 36. Summary of the final linear mixed effects regression model showing fixed

effect predictors of normalized F2 in the carrier phrase task

With /a/ as the reference level, /i/ (pMCMC = 0.0001) and /e/ (pMCMC = 0.0001) are significantly more front, and /u/ (pMCMC = 0.0001) and /o/ (pMCMC = 0.0001) are

significantly more to the back of the vowel space. Stress was not found to significantly predict F2, but syllable position and phrasal position were. /a/ in phrase-final words had significantly higher F2 than vowels in nonfinal words (pMCMC < 0.01). Vowel category also interacted with phrasal position. When /i/ (pMCMC < 0.05), /u/ (pMCMC < 0.001), and /o/ (pMCMC = 0.0001) are in phrase-final words, they have lower F2 than when they are in nonfinal words.

District was not significant as a main effect ($p > 0.05$), but it interacted with vowel category and phrasal position. In San Roque, /i/ is not as front as it is in Caridad (pMCMC < 0.05) and /u/ is not as back (pMCMC < 0.05). When /o/ is in a phrase-final word in San Roque, it is significantly more fronted than it is in nonfinal words (pMCMC < 0.001). Stress was not found to interact significantly with district, syllable position, or phrasal position.

6.6.5 *Vowel duration*

As in the word list task, vowel duration was analyzed in order to determine whether it is a correlate of lexical stress or phrasal position. The distribution of the normalized duration of vowels in different prosodic conditions in all three districts is summarized in the box plots in Figure 35. Red boxes represent vowels in ultimate syllables and blue boxes represent vowels in penultimate syllables.

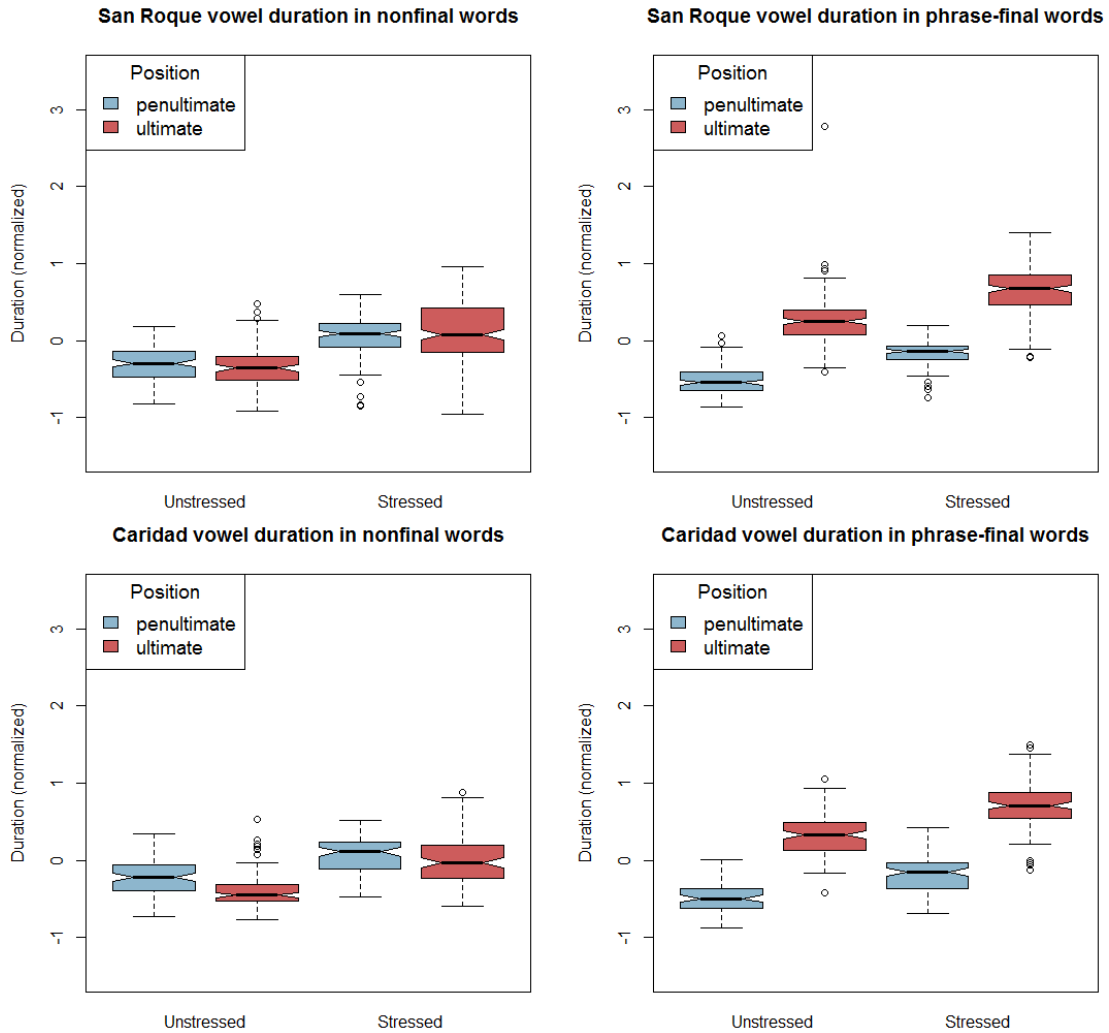


Figure 35. Vowel duration in San Roque and Caridad by syllable position and stress condition in nonfinal and phrase-final words in the carrier phrase task

Figure 35 shows that the two districts have similar patterns of vowel duration. In nonfinal words, stressed vowels are longer than unstressed vowels in both districts. However, in phrase-final words, both districts have the lengthening of ultimate stressed and ultimate unstressed vowels that was also found in the word list task. This lengthening

of the ultimate syllable is not found in the ultimate syllable of nonfinal words from the *Habla _____ con eli* ‘Say _____ to him’ condition.

To confirm these results statistically, a linear mixed-effects regression model was built by starting with the null model and stepping up by one factor or interaction at a time through model comparison. The analysis was based on 1,963 tokens from the San Roque and Caridad participants. Speaker and word were analyzed as having random intercepts, and these fixed effects were tested to determine if they improved the model: vowel category, stress, syllable position, phrasal position of the target word, vowel dispersion, word origin, following context, district, gender, education, and age. Interactions between stress, syllable position, phrasal position, and district were also tested.

The fixed effects of the final model selected are summarized in Table 37. The fixed effects found to significantly improve the model were syllable position, phrasal position, stress, dispersion, following context, and vowel category. Interactions between vowel category, phrasal position, and syllable position also improved the model. District, age, gender, education, word origin, and preceding context were not found to significantly improve the model. Lower estimates in the table indicate shorter vowel duration, and higher estimates indicate longer vowel duration.

Factors/levels	Estimate	Std. Error	t value	pMCMC
(Intercept)	0.306546	0.10325	2.969	0.0138
Stress (reference level: stressed)				
unstress	-0.40312	0.026269	-15.346	0.0001
Syllable position (reference level: penultimate)				
ultimate	-0.52219	0.204653	-2.552	0.0122
Phrasal position (reference level: nonfinal word)				
phrase-final word	-0.23311	0.037466	-6.222	0.0001
Vowel category (reference level: /a/)				
/e/	0.017714	0.065109	0.272	0.7776
/i/	-0.193	0.065567	-2.944	0.0106
/o/	-0.1923	0.092928	-2.069	0.0616
/u/	-0.21209	0.064887	-3.269	0.0058
Following context (reference level: /d/)				
/?/	0.290983	0.229126	1.27	0.2118
/h/	-0.12196	0.119209	-1.023	0.2876
/k/	0.215929	0.225675	0.957	0.3402
pause	0.552476	0.222016	2.488	0.0144
/t/	0.054157	0.071438	0.758	0.4394
/s/	-0.24367	0.094142	-2.588	0.0242
/t/	-0.36866	0.118182	-3.119	0.0086
Dispersion	0.144238	0.055021	2.622	0.0094
Syllable position:Phrasal position				
ultimate:phrase-final word	0.582374	0.065649	8.871	0.0001
Syllable position:Vowel category				
ultimate:/e/	-0.08015	0.085096	-0.942	0.3484
ultimate:/i/	0.114769	0.08294	1.384	0.1766
ultimate:/o/	0.151719	0.107733	1.408	0.1682
ultimate:/u/	0.269587	0.085004	3.171	0.0086
Phrasal position:Vowel category				
phrase-final words:/e/	0.003422	0.055751	0.061	0.9478
phrase-final words:/i/	-0.01295	0.055455	-0.233	0.8074
phrase-final words:/o/	-0.09127	0.055703	-1.639	0.0976
phrase-final words:/u/	0.12093	0.055532	2.178	0.026
Syllable position:Phrasal position:Vowel category				
ultimate:phrase-final word:/e/	0.112873	0.078764	1.433	0.1496
ultimate:phrase-final word:/i/	0.035586	0.07618	0.467	0.644
ultimate:phrase-final word:/o/	-0.14272	0.077857	-1.833	0.0602
ultimate:phrase-final word:/u/	-0.24447	0.078743	-3.105	0.0016

Table 37. Summary of the final linear mixed effects regression model showing fixed effect

predictors of normalized vowel duration in the carrier phrase task

Unstressed vowels are shorter than stressed vowels (pMCMC = 0.0001), ultimate vowels are generally shorter than penultimate vowels (pMCMC < 0.05), and vowels in phrase-final words are generally shorter than those in nonfinal words (pMCMC = 0.0001). However, ultimate vowels in phrase-final words are significantly longer than those in nonfinal words ($p = 0.0001$), as expected based on the plots in Figure 35.

Vowel dispersion is correlated with vowel duration (pMCMC < 0.01). More peripheral vowels are longer in duration. There was also an effect of following context. Vowel duration is longer when there is a following pause (pMCMC < 0.05), and shorter before /s/ (pMCMC < 0.05) or /t/ (pMCMC < 0.01).

There were vowel-specific effects on duration. The high vowels /i/ (pMCMC < 0.05) and /u/ (pMCMC < 0.01) were significantly shorter than /a/, as is expected based on intrinsic vowel duration effects. /e/ was slightly longer than /a/, but this effect is not significant (pMCMC > 0.05). Vowel category also interacts with syllable position and phrasal position. /u/ is not as short as /a/ is in ultimate syllables (pMCMC < 0.01) or in phrase-final position (pMCMC < 0.05). It is also not as lengthened as /a/ is in ultimate syllables in phrase-final words (pMCMC < 0.01).

6.6.6 *Vowel dispersion*

Along with the duration measurements, vowel dispersion was also analyzed in order to determine whether it is an acoustic correlate of lexical stress or phrasal position. The dispersion of the vowels in different prosodic conditions in all three districts is summarized in the box plots in Figure 36. Dispersion was calculated based on normalized

F1 and F2 values. Red boxes represent vowels in ultimate syllables and blue boxes represent vowels in penultimate syllables. The graphs on the left are of vowels in phrase-final words and the ones on the right are from nonfinal words.

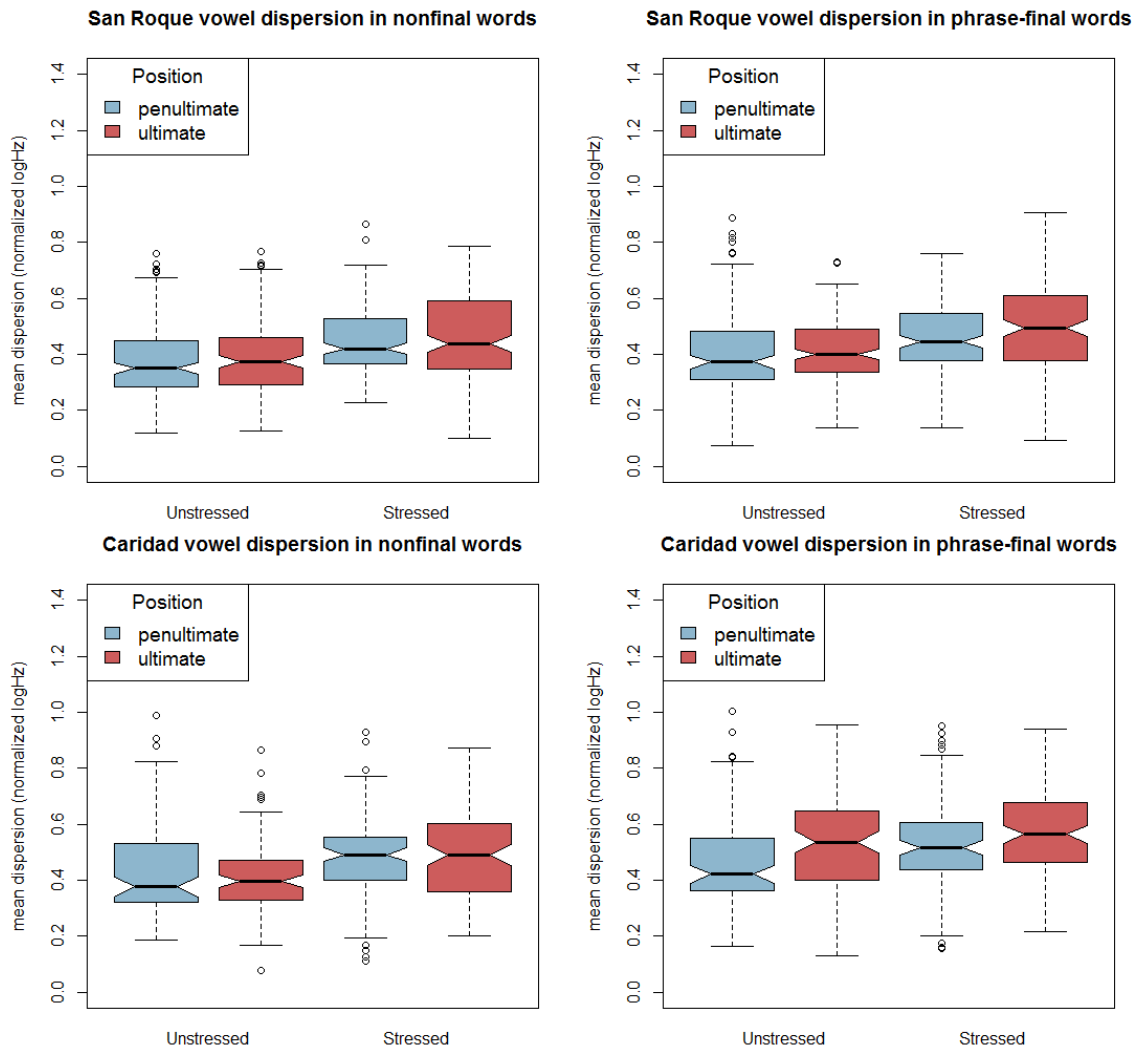


Figure 36. Vowel dispersion in San Roque and Caridad by syllable position and stress condition in nonfinal and phrase-final words in the carrier phrase task

In general, vowel dispersion seems to be greater in stressed than in unstressed syllables in both districts. Dispersion is greatest in the stressed ultimate syllables of phrase-final words. In Caridad, it appears that vowels in phrase-final words may be slightly more dispersed than they are in nonfinal words.

To confirm these results statistically, a linear mixed-effects regression model was built by starting with the null model and stepping up by one factor or interaction at a time through model comparison. The analysis was based on 1,963 tokens from the San Roque and Caridad participants. Speaker and word were analyzed as having random intercepts, and these fixed effects were tested to determine if they improved the model: vowel category, stress, syllable position, phrasal position of the target word, vowel duration, word origin, following context, district, gender, education, and age. Interactions between stress, syllable position, phrasal position, and district were also tested.

The fixed effects of the final model selected are summarized in Table 38. The fixed effects found to significantly improve the model were phrasal position, district, vowel category, following context, vowel duration, and gender. An interaction between phrasal position and district also improved the model. Age, education, and word origin were not found to significantly improve the model. For the coefficients of the fixed effects in Table 38, lower estimates indicate less vowel dispersion, and higher estimates indicate greater vowel dispersion.

Factors/levels	Estimate	Std. Error	t value	pMCMC
(Intercept)	0.3730	0.0345	10.8130	0.0001
Phrasal position (reference level: nonfinal words)				
final	0.0640	0.0073	8.7170	0.0001
District (reference level: Caridad)				
San Roque	-0.0091	0.0154	-0.5910	0.5646
Vowel (reference level: /a/)				
/e/	-0.0030	0.0413	-0.0740	0.9296
/i/	0.1751	0.0393	4.4580	0.0001
/o/	-0.0325	0.0412	-0.7890	0.3586
/u/	0.1422	0.0412	3.4480	0.0006
Stress (reference level: stressed)				
unstressed	-0.0330	0.0226	-1.4560	0.0916
Duration (normalized)	0.0278	0.0065	4.3040	0.0001
Gender (reference level: male)				
female	0.0718	0.0144	5.0010	0.0002
Phrasal position:District				
phrase-final words:San Roque	-0.0448	0.0093	-4.8090	0.0001

Table 38. Summary of the final linear mixed effects regression model showing fixed effect predictors of normalized vowel dispersion in the carrier phrase task

Vowels in phrase-final words are significantly more dispersed than those in nonfinal words (pMCMC = 0.0001). Unstressed vowels are somewhat less dispersed than stressed vowels, but this effect does not quite reach significance (pMCMC > 0.05). Out of the different vowel categories, /i/ (pMCMC = 0.0001) and /u/ (pMCMC < 0.001) both had greater dispersion compared to /a/. Duration was also correlated with vowel dispersion. More dispersed vowels had longer duration (pMCMC = 0.0001).

District and phrasal position interacted significantly. San Roque has significantly less dispersion compared to Caridad in phrase-final words (pMCMC = 0.0001). In addition, women have significantly more dispersed vowels than men (pMCMC = 0.001).

6.7 Carrier phrase task: Discussion

In this task, lexical and post-lexical prosodic factors influenced how the vowels were realized in different conditions. At the lexical level, stressed vowels had longer duration than unstressed vowels. Vowel quality was for the most part not as affected by stress as it was in the word list task. Vowel category overlap for the front vowels and for the back vowels was higher in unstressed than in stressed contexts, but stress was not a significant predictor of vowel dispersion or F2. At the post-lexical level, there was significant lengthening of ultimate syllables in phrase-final words. Phrase-final vowels are more dispersed than nonfinal vowels, but San Roque has less dispersion in that position compared to Caridad.

With respect to mid vowel raising, fewer dialectal differences were found in this task compared to the word list task. San Roque had significantly more raising of /o/ in unstressed contexts compared to Caridad, but both dialects had raising of /e/ in ultimate syllables when it was phrase-final.

Both dialects had partial overlap of /i/ and /e/ across prosodic conditions. Both dialects have some overlap of /i/ and /e/ in unstressed contexts, but have no overlap in stressed contexts. San Roque has slightly more unstressed overlap than Caridad. The two districts tend to overlap /i/ and /e/ in slightly different contexts. The highest percentage of overlap in San Roque is in unstressed ultimate syllables in phrase-final words, but in Caridad it is in unstressed ultimate syllables in nonfinal words. These results match the finding that Caridad tends to have greater vowel dispersion in phrase-final position than

in nonfinal position, but San Roque does not. The results also match observations by German (1932), Miranda (1956), and Romanillos (2006) that San Roque tends to raise /e/ in final position.

For the back vowels, San Roque tended to have higher overlap percentages compared to Caridad, but both dialects have complete overlap in almost every prosodic context. The only exceptions are that Caridad has no overlap in stressed ultimate position in nonfinal or phrase-final words. These results differ from that of the word list task, in which Caridad tended to have higher overlap between /u/ and /o/. Both dialects had high overlap of the back vowels in phrase-final compared to nonfinal words in this task.

San Roque has higher overlap percentages than Caridad for both the front and back vowels. There seem to be a few reasons for these differences. First, San Roque has less vowel dispersion in phrase-final position compared to Caridad. San Roque was also found to have less peripheral F2 measurements than Caridad for /i/ and /u/. San Roque also had more fronted /o/ in phrase-final position and raised /o/ when it was unstressed.

The asymmetry between the front and back vowels in terms of vowel category overlap in both districts matches what was found in the word list task. Although some raising of unstressed /o/ was found in San Roque, the complete overlap of /u/ and /o/ can be attributed to the fact that the back vowels occupy less acoustic overall compared to the front vowels.

6.8 General discussion

6.8.1 *Combined results of the two tasks*

The word list task and the carrier phrase task both provided insight into the characteristics of the Cavite Chabacano vowel system and how it is influenced by prosodic factors. At the word level, the results of the two tasks confirm that Cavite Chabacano vowels that are lexically stressed have longer duration and less overlap between high and mid vowel categories in the acoustic space. Unstressed vowels are spectrally and temporally reduced in comparison to stressed vowels. At the post-lexical level, vowels in the phrase-final syllable were found to be prosodically prominent in terms of longer duration and greater dispersion from the center of the vowel space. Both tasks also found shorter duration for higher vowels compared to lower vowels, which is an expected vowel-intrinsic effect. Finally, asymmetry was found in how the back vowels and high vowels are organized. The back vowels in both districts have much higher percentages of overlap than the front vowels do.

Dialectal differences that were found in both tasks include higher overlap of /i/ and /e/, more raising of unstressed /o/, less peripheral F2 measurements, and less vowel dispersion in San Roque compared to Caridad. There were also some dialectal differences that were found in the results of the word list task, but not the carrier phrase task. For example, Caridad had more overlap between /u/ and /o/ than San Roque did in the word list task, but not in the carrier phrase task. Another difference is that mid vowel raising was found to be more extreme in San Roque than in Caridad in the word list task, but dialectal variation in the mid vowels was greatly reduced in the carrier phrase task.

The word list task confirmed observations by previous studies (German 1932, Miranda 1956, Romanillos 2006) that San Roque has more raising of final /e/ and /o/ compared to Caridad, although the results show that Caridad has some raising of the mid vowels as well. These findings also match the variation that is found in Cavite Chabacano learning materials produced by native speakers. For example, Escalante's (2005, 2010, 2012) dictionary and textbooks include transcriptions of the final mid vowels as [i] and [u], and he promotes that pronunciation as the standard, but the *Diccionario Chabacano* (Asociacion Chabacano 2008) often transcribes [e] and [o] in final position. Escalante is from San Roque, but the *Diccionario Chabacano* contributors and editors were from both districts.

However, in the carrier phrase task, San Roque was not found to raise unstressed final /e/ more than Caridad. San Roque had more raising of unstressed /o/ compared to Caridad, but there was no interaction with phrasal position. One possible reason that dialectal variation in mid vowel raising was not found in the carrier phrase task is that the task may have elicited more careful speech. Read speech is often more careful or formal than other speech styles (Labov 1966). Another possibility is that the participants could have been influenced by spelling pronunciation, and read words with <e> and <o> according to how they were written. As discussed in the methodological background in Chapter 4, I observed that some participants were clearly affected by spelling pronunciation for some of the consonants in the reading tasks. It is possible that the pronunciation of the vowels could be similarly influenced in read speech tasks. The participants are used to reading in English and Tagalog because those are the languages

of the education system and media, but they are not as used to reading in Chabacano. Overall, however, the use of the two tasks was successful. The word list task had more participants and was easier for the participants to do, but the carrier phrase task was much more controlled in terms of balancing the number of tokens in each prosodic context, and served to confirm many of the results found in the first task.

6.8.2 *Superstrate influence, substrate influence, and phonetic restructuring*

Direct comparison between the creole, superstrate, and substrate systems is limited because the exact features of the Spanish and Tagalog dialects spoken in early Cavite history are unknown, there are few phonetic studies of Tagalog or Mexican Spanish vowels, and it is not possible to pinpoint an exact variety of modern Spanish to make phonetic comparisons to. Even if it were possible, comparisons should be made with caution because all three languages have likely changed since the initial creolization of Cavite Chabacano. However, in this section, I compare the findings of this chapter with the limited information that is available about the phonetics of the relevant Spanish and Tagalog varieties in order to identify possible superstrate and substrate influence in the creole.

As discussed in Chapter 5 and confirmed by the results of the two tasks in this chapter, both dialects of Cavite Chabacano have five vowel categories that are acoustically distinct in stressed position but often centralize or overlap in unstressed position. These findings of unstressed vowel reduction, mid vowel raising, and overlap between mid and high vowel categories are not typical of most Spanish varieties, but are

found in some regional dialects, including some central Mexican Spanish dialects that were likely part of the input into early Cavite Chabacano (Boyd-Bowman 1952, Lope Blanch 1963, Parodi & Santa Ana 1997). These features can also be found in past and present varieties of Tagalog (Gonzalez 1970, Soberano 1980). Standard Manila Tagalog does not have the archaic feature of mid vowel raising, but some southern Tagalog dialects have retained it (Soberano 1980).

It is possible that unstressed vowel reduction and mid vowel raising were found in the Mexican Spanish that was part of the original input in the formation of Cavite Chabacano. However, without acoustic studies of these central Mexican varieties, it is difficult to say for certain if the phonetic and phonological patterns are similar to those found in modern Cavite Chabacano. There are some indications that the patterns of the superstrate may differ from that of the creole, and that substrate influence was stronger in the development of these patterns.

Unstressed vowel reduction in Mexican Spanish seems to pattern phonologically the same way that it does in Andean Spanish, with reduction occurring most often before word-final /s/ and occurring most frequently for /e/ (Boyd-Bowman 1952, Lope Blanch 1963, Lipski 1990, Delforge 2008). Delforge (2008) finds that the reduction of unstressed vowels in Andean Spanish is realized not so much through reduction of vowel quality but through vowel devoicing, but it is unclear if the same generalization can be made about Mexican Spanish since there is no comparable acoustic study. However, both the phonological patterning and the phonetic realization of unstressed vowel reduction in these Spanish varieties seem to be different from what was found in the results presented

in this study. Cavite Chabacano unstressed vowel reduction is not very restricted in terms of segmental environment, the vowels tend to be more dispersed rather than reduced in final position, and the devoicing of unstressed vowels is not common.⁵⁴

If unstressed mid vowel raising was present in the Mexican Spanish that was brought to the Philippines, Cavite Chabacano could have been influenced by that input. However, there are some words in Cavite Chabacano that have high vowels that correspond to Spanish mid vowels even in stressed position (e.g. *pudi* ‘to be able’ < Sp. *poder*), which is clearly the result of substrate influence, as the Mexican pattern involves only unstressed vowels.

Unstressed vowel reduction and overlap between the mid and high vowels is characteristic of modern Tagalog (Schachter & Otones 1972, Yap 1970, Soberano 1980). Some of the overlap between the mid and high vowels is due to the historical process of phrase-final high vowel lowering in some Tagalog varieties, but the more conservative southern varieties maintain the high vowels in those positions (Soberano 1980, Manuel 1971). Cavite Tagalog seems to have been one of these more conservative varieties at the initial point of Spanish contact, as evidenced by the systematic assimilation of the stressed Spanish mid vowels to Old Tagalog /i/ in all verb forms based on the Spanish *-er* infinitives (see Chapter 5). The Mexican Spanish input to Cavite Chabacano may have had unstressed mid vowel raising or reduction, but it likely reinforced these patterns already found in the substrate.

⁵⁴ While taking measurements in the analysis of the word list task, only 12 voiceless vowel tokens were found out of over 18,000 tokens. There were no devoiced vowels in the carrier phrase task.

The findings of this study about how the vowels are affected by lexical stress and phrase-level prosody match some of the Tagalog findings by Gonzalez (1970) and Anderson (2006), who found that the phrase-final syllable is prosodically prominent in terms of vowel duration, vowel quality, and F0. Similarly, the phrase-final syllable was also found to be prosodically prominent in Cavite Chabacano. The vowels in both dialects of Cavite Chabacano have phrase-final lengthening, regardless of lexical stress. Greater vowel dispersion was also found in the phrase-final position. However, because there are no studies measuring vowel dispersion in Tagalog, it is not yet certain if these Cavite Chabacano patterns are also characteristic of the substrate or if they developed independently. Future studies of both Chabacano and Tagalog vowels and prosody are needed to be able to make more direct comparisons between the two languages.

The results of the vowel dispersion analysis in this study are also interesting in light of the findings in previous research about the acquisition of new vowel contrasts by speakers in Spanish contact situations (Guion 2003, O'Rourke 2010). In the word list task, the San Roque dialect had less dispersion overall compared to the Caridad dialect, with /e/, /i/, and /u/ all tending to be less dispersed, although /o/ was more dispersed than it was in Caridad in unstressed final position because it was more raised. /e/ was also more peripheral in San Roque in terms of its F2 measurements, although its overall dispersion was not great. In the carrier phrase task, San Roque had less dispersion than Caridad in phrase-final position. The lesser degree of dispersion and the overlap of the front vowels and the back vowels in San Roque is perhaps indicative of historically less accommodation of the mid and high vowel contrasts in unstressed position that were

introduced by the standard Peninsular Spanish present in the Philippines in the 1800s, if they were not already present in the Mexican Spanish input before that. Caridad, however, does not seem to have standard Spanish vowel categories either, but rather is somewhere in between. Caridad has some raising of unstressed /e/ and /o/, and complete overlap of the back vowel categories, but the front vowels are more acoustically distinct than they are in San Roque.

This variation between dialects in terms of how the vowel categories are arranged in the vowel space seems similar to the differences that have been found between Quechua-Spanish bilinguals with varying levels of acquisition (Guion 2003, O'Rourke 2010). For example, Guion (2003) found that simultaneous, early, mid, and late Quechua-Spanish bilinguals varied in how native-like their Spanish vowel systems were. Simultaneous, early, and some mid bilinguals distinguished between all five Spanish vowels, but the rest of the mid bilinguals and the late bilinguals assimilated the five Spanish vowels to their three Quechua categories, overlapping /i/ with /e/ and /u/ with /o/. Even among bilinguals who distinguished between all five Spanish vowels, there were differences in how their vowel spaces were restructured depending on how early they had acquired Spanish. Similarly, it seems that the vowel spaces of the Caridad and San Roque dialects of Cavite Chabacano vary in how they are structured. Neither dialect is “native-like” compared to standard varieties of Spanish, but Caridad is slightly closer in maintaining less overlap between the mid and high vowel categories, particularly /i/ and /e/, and having a more dispersed vowel system overall.

6.9 Summary

The findings of the experiments in this chapter corroborate some of the findings of previous Cavite Chabacano phonological descriptions (German 1932, Ramos 1963) and expand upon them by providing more detailed analyses of how the vowel system interacts with the prosodic system. Dialectal variation in the realization of the mid vowels was found in both tasks, but was more pronounced in the word list task than the carrier phrase task.

As Chapter 5 discussed, Cavite Chabacano is remarkably close to its superstrate in some ways. For example, it has the tap/trill distinction, /ʎ/ as a phoneme, and the same number of vowel categories as Spanish. However, the phonetic analysis of the vowel system shows that substrate influence is evident in terms of how the vowel system is organized and how the vowels are realized under different prosodic conditions. Using sociophonetic methods allows for the fine-grained analysis that is necessary to be able to identify substrate influence beyond the phonological level.

Chapter 7: Linguistic and Social Perceptions of Cavite Chabacano Variation

7.1 Introduction

This chapter discusses the metalinguistic awareness of Cavite Chabacano speakers of variation in their language. The main focus is on phonology, but the discussion also includes some other types of variation that were perceived by the participants. While conducting fieldwork, I observed that Caviteños very often discuss phonological variation in their language, especially different “intonations” and differences in vowel pronunciation that are said to be found in different neighborhoods, and that people seem to attach negative or positive evaluations to some of this variation. Sippola (2010) and Lesho & Sippola (2013) also observed that some groups of language activists in Cavite City seemed to be reluctant to work with each other because of perceived dialectal differences between them. In order to further investigate what these perceived dialectal differences are and how they align with the phonological features and variation documented in this study and in previous work (German 1932, Ramos 1963), a perceptual dialectology map task was used to elicit more focused commentary from the participants about their folk beliefs about the language.

There were a few different goals in using this task. First, because Cavite Chabacano is severely endangered, participants were asked to comment on where in Cavite City they think the language is still spoken. They were also asked about how many dialects they think there are in Cavite Chabacano and to give examples of how Cavite Chabacano can vary. In describing variation in the language, participants also often offered their opinions about how they evaluate certain variants socially, revealing some of their language attitudes and ideologies. As expected based on my field experience before implementing the task, vowel variation is highly salient to Cavite Chabacano speakers, and there are different social judgments about the different dialects. I argue that this awareness of the variation in the vowel system and the attitudes toward it provide some insight into why Cavite Chabacano has retained some substrate vowel features despite conforming to the phonology of standard late 1800s Peninsular Spanish in many other ways (Lipski 1986, 1987).

Section 7.2 summarizes the phonological variation that was described in Chapter 5, as well as some other aspects linguistic variation (e.g. in the pronominal system) that are relevant to the results of the task. 7.3 gives details about the methodology of the task, adding to the brief description of the perceptual dialectology task from Chapter 4. Section 7.4 presents the results, including where in Cavite City people believe the creole to still be spoken, the specific linguistic features mentioned by the participants in their commentary, and the social beliefs they associate with these linguistic features. 7.5 discusses the results in the context of the other findings from the phonological and phonetic analyses in this study, and the conclusion is in 7.6.

7.2 Summary of linguistic variation in Cavite Chabacano

The phonological description in Chapter 5 included discussion of variation based partly on the data collected for this study and partly on documentation by previous sources (German 1932, Miranda 1956, Ramos 1963, Lipski 1986). Some of the phonological variation was dialectal (e.g. phrase-final mid vowel raising in San Roque), but some of it was found in both dialects (e.g. coda [r] ~ [l] alternation). Table 39 summarizes the findings about phonological variation in Cavite Chabacano.

	Features	Examples
Dialectal variation		
Caridad	[fɾ] or [fr] for /r/	/ˈpe.ro/ → [ˈpe.fro] ‘dog’
San Roque	phrase-final mid vowel raising ⁵⁵	/ˈe.le/ → [ˈe.li] ‘3SG’ /ˈjelo/ → [ˈjelu] ‘ice’
Variation found in both dialects		
	unstressed nonfinal mid vowel raising	/re.ˈlo/ → [ri.ˈlo] ‘clock’ /solˈdaw/ → [sol.ˈdaw] ‘soldier’
	coda /r/ as [r] ~ [l]	[mu.ˈher] ~ [mu.ˈhel] ‘woman’
	coda /r/ as /ɾ/	[dok.ˈtoɾ] ~ [dok.ˈtoɾ] ‘doctor’
	coda /s/ aspiration or deletion	[niˈsos] ~ [niˈso] ‘3PL’
	Ø ~ Old Spanish /h/	[a.ˈri.na] ~ [ha.ˈri.na] ‘flour’
	unstressed syllable deletion	/es.ˈtre.ʎas/ → [es.ˈtre.ʎas] ~ [ˈstre.ʎas] ‘star’
	Final stop devoicing in Tagalog words	/it.ˈlog/ → [it.ˈlok] ‘egg’

Table 39. Phonological variation in Cavite Chabacano

In addition to the phonological variation in Table 39, there is some lexical variation in Cavite Chabacano. Some of the lexical variation is between similar Spanish-

⁵⁵ As shown in Chapter 6, Caridad also has mid vowel raising in phrase-final or nonfinal position to some extent. However, in the word list task, San Roque had more phrase-final raising, especially for /e/.

based forms, e.g. *peini* ‘comb’ and *paineta* ‘comb’.⁵⁶ Another example is that one of the reading passages in this study contained the phrase *guna vez* ‘sometimes’ (< Spanish *algunas veces*), but some participants said it was wrong or not part of their dialect. Another way of saying ‘sometimes’ is *tiene vez* (literally, ‘there are times’). Other variation has to do with forms being closer to the superstrate or the substrate. For example, a few participants in the word list task responded to the picture of ‘lightning’ with *relámpago* (< Spanish), but everyone else used *kidlat* (< Tagalog), which is the form listed in the *Diccionario Chabacano* (Asociacion Chabacano 2008) and Riego de Dios (1989).⁵⁷ One example of Tagalog influence is that some participants used *hari* (< Tagalog) for ‘king’ instead of *rey* (< Spanish), which is the usual Cavite Chabacano word. Influence from English was also evident in the word list task. For example, the pictures for ‘jam, jelly’ and ‘factory’ often elicited English responses instead of the expected *haleya* ‘jam’ (< Spanish *jalea*) and *pabrika* (< Spanish *fábrica*).

There is also some variation in the pronominal system, which has not yet been fully described. For example, Steinkrüger (2008:219) lists *vos* as the 2SG pronoun and *vosós* as the 2PL form in Cavite Chabacano. However, Llamado (1972) lists three singular forms, *vo*, *tu*, and *uste*, and two plural forms, *vosos* and *ustedes*, although she does not indicate what the differences between them are. *Vo(s)* (also spelled *bo* and pronounced as [bo] or [bos]) (< Spanish *vos*), *tu* (< Spanish *tú*), and *uste* (< Spanish *usted*) all come from Old Spanish, and the levels of formality or politeness of *vos* and *tú* have varied

⁵⁶ *Peineta* ‘ornamental comb’ and *peine* ‘comb’ are different things in Spanish (RAE 2001). The former is the type of comb that women wear in their hair. However, in the word list task, the picture that the participants saw was an ordinary comb.

⁵⁷ These dictionaries also list *rayo* (< Spanish *rayo* ‘lightning’) in addition to *kidlat*, but not *relámpago*. No one in the word list task produced *rayo*.

diachronically and across Spanish dialects (Bentivoglio 2003, Lipski 1986). It seems that in Cavite Chabacano, *uste* is the formal 2SG pronoun, *tu* is informal, and *bo* is familiar or intimate. However, Escalante's (2005:14) dictionary defines *bo* as "used slangily, in a derogatory manner or when angry". This definition matches many comments heard during fieldwork that *bo* is extremely rude and disrespectful. Examples of these types of comments were also elicited during the map task and will be further discussed below. Escalante (2005:17) also defines the plural *buso* as slang that is used in a derogatory or angry way. It seems that *bo* and *buso* are considered rude because they are perceived to be used incorrectly or in the wrong social contexts by certain types of people.

As mentioned in Chapter 2, there are certain traditional *barrios* 'neighborhoods' that Cavite City residents often mention as places where Chabacano is still spoken and there are different "intonations" or accents. These barrios are Calumpang in Caridad and Cagayan, Gangley, and San Jose in San Roque. There are participants in this study from each of these barrios, but many of them were from other places in Caridad, San Roque, and San Antonio. I did not incorporate barrio into the phonological description in Chapter 5 or the phonetic analysis in Chapter 6, choosing instead to focus on broader differences at the district level. However, in this chapter I report what kind of commentary participants gave about these different barrios.

This brief review is the extent of the variation that has been documented so far in Cavite Chabacano. In the analysis of the perceptual dialectology task in the following sections, the discussion addresses which linguistic features participants have metalinguistic awareness of, the kinds of social beliefs that are associated with the use of

these features, and if they perceive any other kinds of variation that have not been documented by previous studies.

7.3 Methods

7.3.1 Participants

There were 27 participants in this task: 12 from San Roque (8 men, 4 women), 14 from Caridad (6 men, 8 women), and 1 from San Antonio (1 woman). All but two of these participants also participated in the word list task, the carrier phrase task, or both. Tables 40 and 41 summarize some of their demographic characteristics. Table 42 shows the education backgrounds of the participant by district. The majority of participants had a college degree, and the education levels in San Roque and Caridad are basically the same. The one participant from San Antonio was from the eldest generation and had her education interrupted by World War II.

District	Elementary	High school	College	Graduate	Unknown
Caridad	0	3	9	1	1
San Roque	1	4	6	1	0
San Antonio	1	0	0	0	0
Totals	2	7	14	2	1

Table 40. Participant education backgrounds (highest level completed) by district in the perceptual dialectology task

Table 41 summarizes the ages of the participants. The age range was 26-87, but there were only a few people below age 50. The age distribution of the participants was similar in San Roque and Caridad. The one participant from San Antonio was in her 80s.

District	20-49	50-59	60-69	70-79	80-87
Caridad	3	5	2	2	2
San Roque	0	4	2	4	2
San Antonio	0	0	0	0	1
Totals	3	9	4	6	5

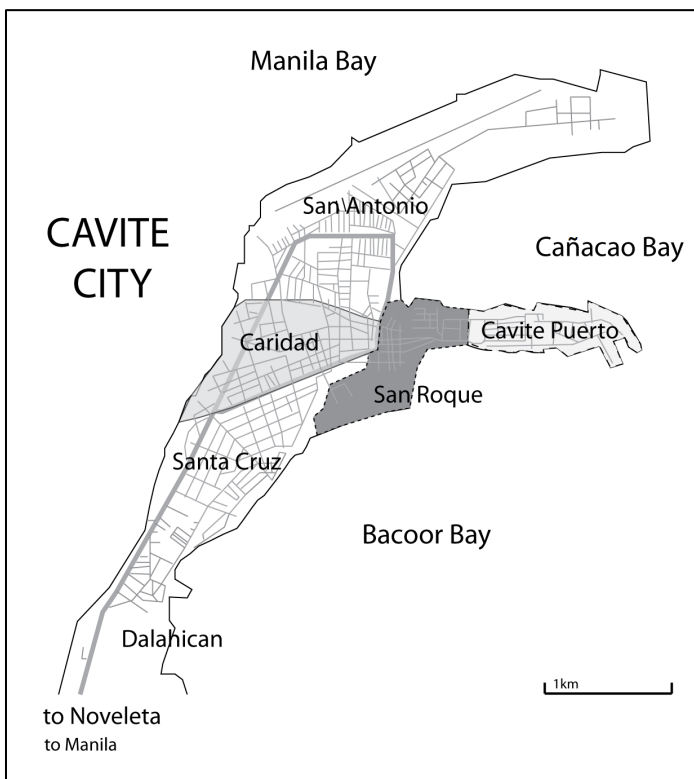
Table 41. Participant ages by district in the perceptual dialectology task

All participants except one reported Chabacano as their first language. The one exception was the youngest participant, who learned some Chabacano later in life from his older relatives. All participants were fluent in Tagalog and English.

7.3.2 *Elicitation methods*

Either as a stand-alone task or as part of the sociolinguistic interview module on the participants' language backgrounds, participants were presented with a map of Cavite City and instructed in Chabacano to draw and label where on the map people still speak Chabacano. A small version of the map (originally shown in Map 4) is shown below in Map 5. The original was printed to take up entire 8" x 10" sheets of paper so that participants would have room to add labels and comments. The map shows the modern borders of the five official districts of Cavite City (Dalahican, Santa Cruz, Caridad, San

Antonio, and San Roque), as well as the area that is currently called PN (“Philippine Navy”) but is still also known by its older pre-WWII name, Cavite Puerto. Although Cavite Puerto was destroyed during the war, it was included on the map in this task in order to elicit any possible commentary participants may have had about how the Chabacano there was spoken. The map does not include official barangay or unofficial barrio names. Streets are drawn on the map but not labeled.



Map 5. Cavite City map used in the perceptual dialectology task

After making their initial labels on the map, the participants were then asked if there were any different ways of speaking Chabacano in those areas, and if so, what some examples of the differences were. At these stages of the task, I avoided asking about specific linguistic variables in order to not influence their responses. However, after getting their initial opinions, I asked follow up questions as necessary, and toward the end, occasionally asked if they were familiar with other examples of linguistic variation that other participants had mentioned or that I had noticed in recordings from other tasks. After discussing Cavite City variation, participants were then asked to discuss the differences between Cavite Chabacano and the varieties in Ternate and Zamboanga, although they were not given maps of those areas. However, the analysis in this chapter focuses only on the results about Cavite.

In addition to the data from the maps, the commentary that the participants made about their maps and in response to my questions was also audio-recorded. The recordings were used to capture additional detail that was not drawn or labeled on the maps. The recording conditions were the same as described in the general overview of the field methods in Chapter 4. As with the other tasks, the elicitation was done mostly in Chabacano, but the participants often codeswitched with Tagalog and English, so there are comments in all three languages included in the presentation of the results in section 7.4.

7.3.3 *Analysis*

The analysis of this task is qualitative in nature and proceeds in three parts. First, the analysis focuses on the boundaries and labels drawn on the maps of Cavite City. I summarize where people believe Chabacano is still spoken at the district level, the barrio level, the street level, and the barangay level. Individual maps labeled by participants will be compared to each other and to the official borders on the Cavite City map.

The second part of the analysis focuses on the metalinguistic commentary about how people speak in the labeled areas of the map, identifying which linguistic features speakers believe to vary between different areas of the city. I focus primarily on the phonological features, especially those related to the vowel system, but also report the participants' commentary on other kinds of linguistic features as necessary, as they are relevant to the overall impressions that participants have about the linguistic features and social qualities associated with each dialect. I also discuss how well these folk perceptions of linguistic variation align with the actual variation observed in the corpus for this study and in previous linguistic descriptions of Cavite Chabacano.

In the third part of the analysis, I describe the social qualities associated with particular linguistic features that are perceived to vary between Chabacano dialects within Cavite City. I summarize the positive and negative qualities that are assigned to specific features and the dialects as a whole. Furthermore, I discuss how these social and linguistic beliefs are tied to ideologies about what constitutes “good” Chabacano, what it means linguistically to be a *legítimo* ‘legitimate’ resident of Cavite City, and how the

different varieties of Cavite Chabacano are perceived to be related to the superstrate and substrate languages.

Quotes from the participants are used to support the analysis of each of these three parts throughout the following section. When direct quotes from a particular participant are used, they are followed by a code that was assigned to them in my records during data collection. The codes are numbers (reflecting the order they were recorded in) followed by M ('man') or W ('woman') to indicate gender and C (Caridad), SR (San Roque), or SA (San Antonio) to indicate which district they are from.

7.4 Results

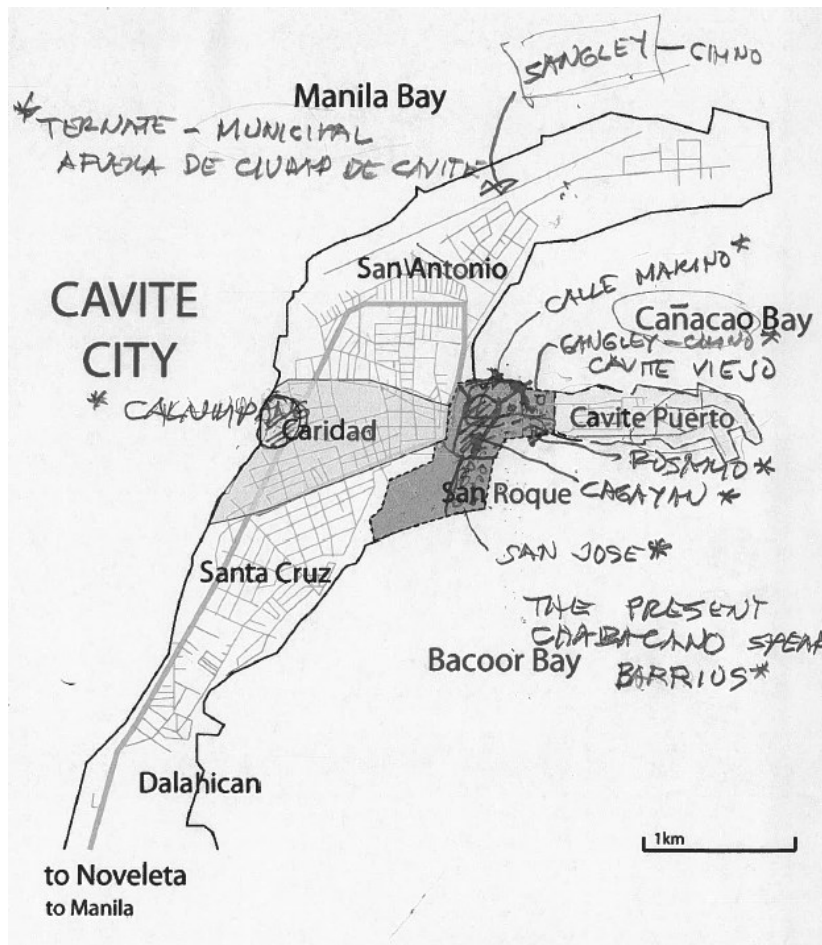
7.4.1 *Chabacano-speaking locations in Cavite City*

Most participants did not label or draw on their maps with very much detail, but their commentary mentioned specific districts, *barrios*, *barangays*, or streets where Chabacano is still spoken. Out of the five present-day districts of Cavite City on the map, San Roque and Caridad were consistently described as the two main places where Chabacano speakers can be found. San Antonio and Santa Cruz were usually described as having few Chabacano speakers left, and Dalahican and Cavite Puerto were described as having no Chabacano.

San Antonio was also identified as having some Chabacano speakers, but while a few participants said there were *mucho* 'many' speakers there, most said that there were *un poko ya lang* 'only a few already' or *nuay ma* 'there's no more'. One participant said that "*halo-halo ya el mga hente aki e*" 'the people here are already mixed' (26W-C),

which was a common comment about San Antonio and the rest of Cavite City in general. The “mixing” of the different people in Cavite City can refer either to Tagalog speakers or to people who moved from other parts of the Philippines and have different languages. For example, several participants mentioned that there were many Visayans (people from the Central Philippines) in Caridad, San Antonio, Dalahican, and Cavite Puerto. Dalahican, Cavite Puerto, and Santa Cruz were all said to have no Chabacano speakers or only a few. Other reasons given for the lack of Chabacano speakers outside of San Roque and Caridad included “*ya muri ya*” [‘they died already’] (5W-C), “*el otro siguro, ta na Amerika*” [‘the others surely are in America’] (4W-SA), and “*el otro, na apwera ya*” [‘the others are outside (of Cavite City) now’] in other parts of the Philippines (4W-SA).

Maps 6-9 show some examples of the different *barrios* labeled by the participants in this task. Maps 6-7 were labeled by San Roque participants, and Maps 8-9 were labeled by Caridad participants.



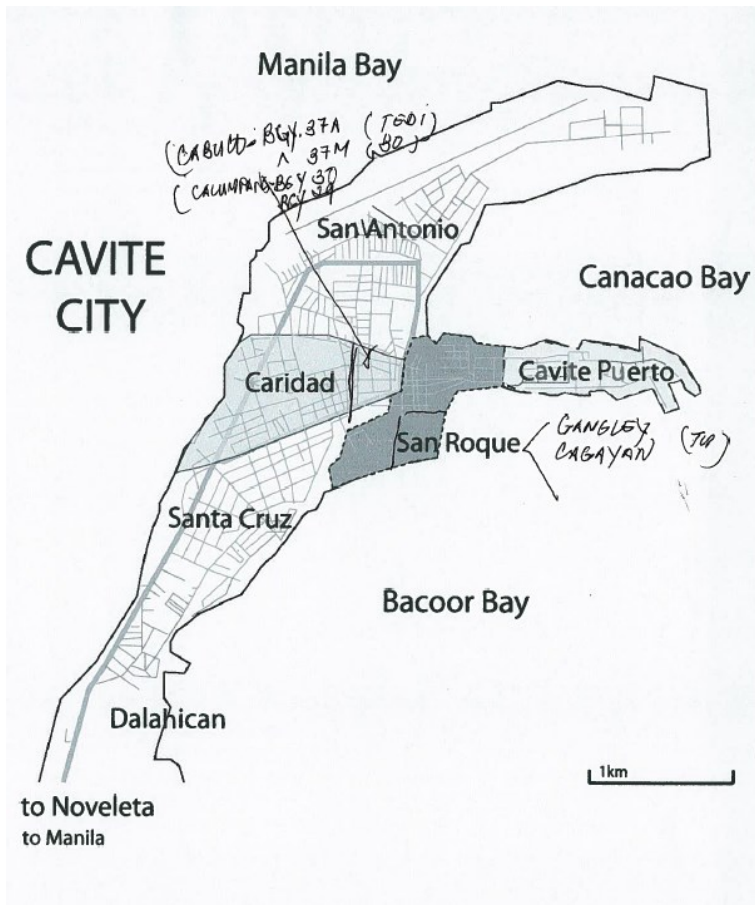
Map 6. Chabacano-speaking areas of Cavite City according to participant 18M-SR

Map 6 was labeled “the present Chabacano speaking barrios”. It was one of the more detailed maps in the study. The participant (18M-SR) used asterisks to denote the different barrios. In Caridad, he labeled one barrio, Calumpang. The barrios identified in San Roque were, from top to bottom, Calle Marino, Gangley, Rosario, Cagayan, and San Jose, with different shadings used to mark each area. About half of San Roque is shaded in his map. His map also labeled Sangley Point (the upper end of San Antonio) because I

had asked him if he knew where the Chinese used to live in the old days (*Sangley* is a term referring to the Chinese). The participant also mentioned that Ternate is a *municipal afuera de Ciudad de Cavite* ‘municipality outside of Cavite City’ where Chabacano is also spoken.

Map 7 is another example of a map labeled by a participant from San Roque. It labels a few of the same barrios as Map 6, but they are drawn in different locations. Gangley and Cagayan are marked in the area where Map 6 had San Jose in San Roque. In Caridad, Calumpang is drawn in the center of the peninsula instead of on the coast. Cabuco was another area labeled in Caridad. He specified the barangays (abbreviated “bgy.”) where these barrios are located. Cabuco is labeled as barangays 37-A and 37-M, and Calumpang as barangays 29 and 30.⁵⁸ Comparison to official maps shows that those barangays are not actually where the participant drew them. They are closer to where Map 6 showed Calumpang, along the coast instead of in the center. In addition to the barrio and barangay labels, the participant also included three labels related to specific linguistic features. He labeled the San Roque barrios as places where people use *tu* for the 2SG pronoun, and the Caridad barrios as places where people use *bo* for the 2SG and *tedi* (as opposed to *usted* or *ustedes*) for the 2PL.

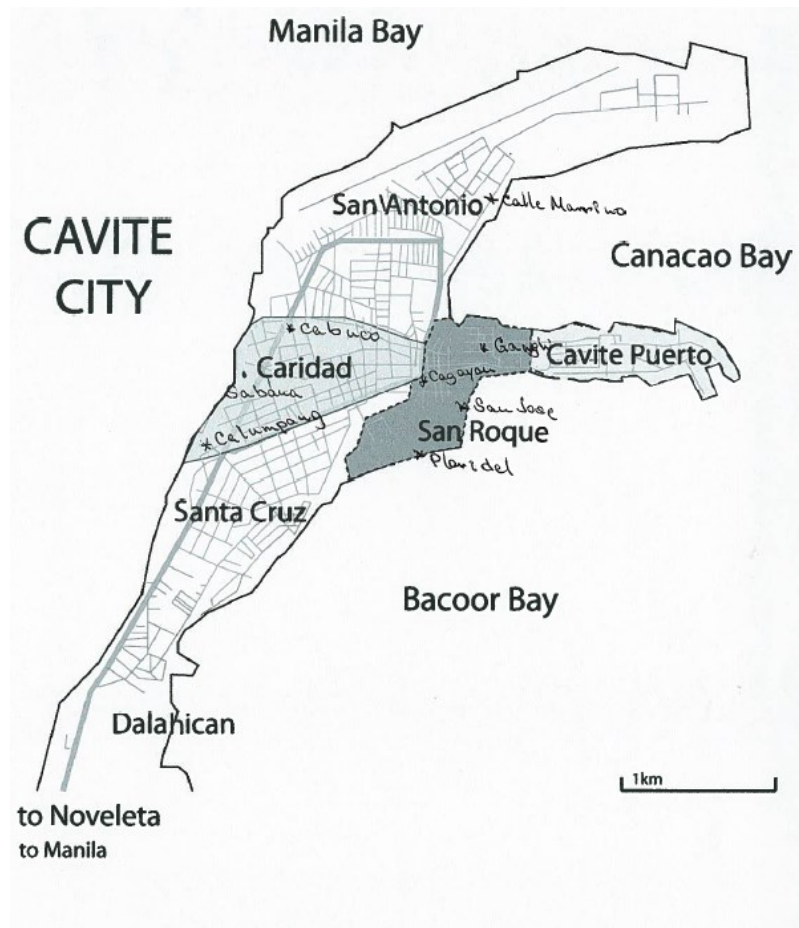
⁵⁸ The 84 barangays of Cavite City are known by number as well as other names. For example, barangays 37-A and 37-M are also called Cadena de Amor A and Cadena de Amor.



Map 7. Chabacano-speaking areas of Cavite City according to participant 17M-SR

Map 8 shows an example of the labels drawn by one of the Caridad participants. Many of the same places from Maps 6-7 were mentioned: Cabuco and Calumpang in Caridad, and Gangle, Cagayan, and San Jose in San Roque. Calle Marino appeared in Map 6, but was labeled in San Roque. In Map 8, it is labeled in San Antonio. There are also places on Map 8 that were not mentioned in Maps 6 or 7. Sabana is an area labeled

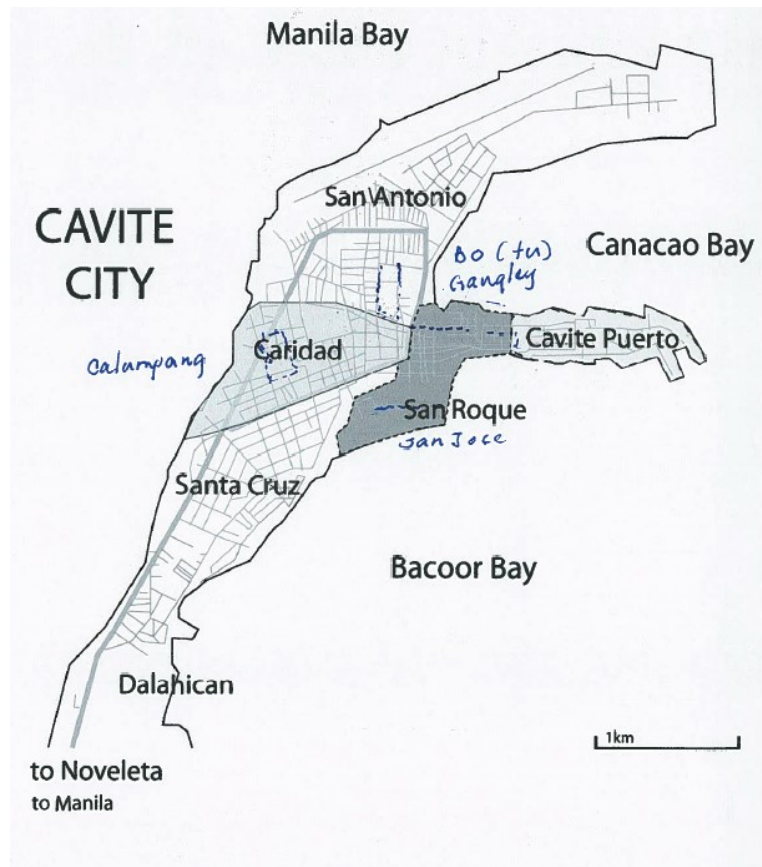
in Caridad, and Plaridel is an area labeled in San Roque. No linguistic features were labeled on Map 8, but the participant made many comments which were recorded.



Map 8. Chabacano-speaking areas of Cavite City according to participant 28W-C

Map 9 lists three barrios, Calumpang in Caridad and San Jose and Gangley in San Roque. San Jose and Gangley are around the same place where they were labeled on Maps 6 and 8. There seems to be an area marked off in San Antonio that is not labeled. In

addition to the place names, this participant wrote that *bo* instead of *tu* is used for the second person pronoun in Gangley, which is at odds with the labels on Map 7.



Map 9. Chabacano-speaking areas of Cavite City according to participant 22W-C

Table 42 summarizes the place names that were mentioned at least once during the perceptual dialectology task, either on the maps or during the recorded commentary. Some place names appear more than once in the table, either because different maps used those labels in two different districts or because a street name was also used as a barrio

name. For example, some participants labeled Cagayan in San Roque and some labeled it in San Antonio. The reason for the discrepancy could be that the modern boundaries of the official Cavite City districts may not align with previous historical borders. Street names like Plaridel and Cabuco also seemed to double as barrio names at times, so I have listed them in both columns. Dalahican is not included in the table because no barrios, streets, or barangays in that district were named as places where Chabacano is spoken.

District	Barrios	Streets	Barangays
San Roque	Cagayan/San Rafael, Gangley, Plaridel, Rosario, San Jose, Soledad	Calle Marino, P. Burgos, Plaridel, R. Basa, Rosario, Zulueta	61-A (Talong-A in Gangley)
Caridad	Cabuco, Calumpang, Sabana	Barlan, Cabuco, Cristosomo, De Guzman, Mabini, Ronquillo, Mabini	30 (Bid-bid), 37-A (Cadena de Amor A), 37-M (Cadena de Amor), 39 (Jasmin)
San Antonio	Cagayan, Calle Marino	Calle Marino	
Santa Cruz		Benitez	

Table 42. Chabacano-speaking barrios, streets, and barangays labeled in each district in the perceptual dialectology task

There were fewer labels in San Antonio and Santa Cruz, which matches the participants' descriptions of Chabacano being rare in those areas. The fact that the places in Table 42 are not contiguous is also consistent with comments that Chabacano is scattered in small pockets throughout the city. One participant commented that Chabacano is found *lugar-lugar lang* 'just place to place' (15M-C). Another said, "*Pulo-*

pulo ya lang. No ma kel komo antes, buong Cavite ta platika. Ora pulo-pulo ya lang” ‘It’s just islands now. It’s not like before, all of Cavite spoke it. Now it’s just islands already’ (17M-SR).

Out of the four traditional barrios that were commonly mentioned to me during fieldwork before conducting this task (see also Fortuno-Genuino 2011), Gangley was often singled out as the barrio that still had the most Chabacano speakers left. It did seem to be the easiest place to recruit Chabacano participants; however, my experience in the field was likely biased because I was living in San Roque very close to Gangley and was introduced to a contact there who helped me set up interviews with several of her neighbors. I did not have similar assistance in the other three barrios, and my contacts in San Roque discouraged me from visiting Calumpang alone because they thought it was dangerous.⁵⁹

There was extensive commentary about linguistic differences between the different districts or barrios that was not labeled on the maps, apart from a few examples about the pronouns like those in Maps 7 and 9. The following subsection describes the commentary about these linguistic differences.

7.4.2 *Metalinguistic commentary on variation within Cavite Chabacano*

Most participants recognized differences between the Chabacano in Caridad and San Roque, and some said that San Antonio was *otro* ‘different’ as well. There were also

⁵⁹ When I did visit Calumpang on a few occasions, it did not really seem to be more dangerous than other parts of town. However, it seemed that my contacts in San Roque were very protective of me because I was a young foreign woman traveling alone. I also suspect that class stereotypes about Caridad, as described in the following sections, may have been involved.

comments that were specific to certain barrios within the districts. Many also commented that the Chabacano of Cavite Puerto sounded more Spanish in the old days. In some cases, when first asked if there were different accents or kinds of Chabacano in the districts or neighborhoods of Cavite City, some participants initially responded that it was *parehas din* ‘the same also’ or *pare-parehas* ‘kind of the same’. However, in all but four cases, these participants went on to volunteer examples of linguistic differences. It seems that they may have been framing my question in terms of the broader context of how Cavite Chabacano compares to other Chabacano varieties or to other languages in the city. One of the participants who said there were no different accents in Cavite said, “*Uno lang el platikada de niso na Chabacano ... No katulad na, na, pag tu di anda na Ternate, tiene tono talaga*” ‘We just have one way of speaking in Chabacano ... not like, in, in, if you go to Ternate, they really have an accent’ (20M-SR). Another of the participants who said there were no different ways of speaking in Cavite Chabacano mentioned instead that there were Ilocanos in the city who spoke their own language.

The two types of linguistic variation that were the most frequently commented upon by the participants were variation in the second person pronouns and in the vowel system. The comments about vowels were often part of descriptions of different “intonations” or *punto* ‘accent’ in the different districts or barrios. Each of these types of variation is discussed in the following subsections, focusing first on the phonological aspects of variation that are the main focus of this study.

7.4.2.1 Variation in the vowel system

Out of the 27 participants, 11 explicitly discussed variation in the pronunciation of the vowels in their interviews. For example, when asked if there were different ways of speaking Chabacano, one participant replied, “Not so. Except the way the San Roqueños pronounce. It's, ah, the *o* becomes *u* and the *i*- the *e* becomes *i*” (25W-C). Another participant mentioned that in San Roque, “*Tiene vez otro el pronunciación. El e ta queda alto, el o ta queda u*” [‘Sometimes the pronunciation is different. The *e* becomes high, the *o* becomes *u*’] (21W-C).⁶⁰ Other participants did imitations or gave examples of specific words in which the pronunciation of the vowels varies between districts. (37) shows a list of some of the examples of different pronunciations that were attributed to Caridad and San Roque. The examples come from participants from both districts. The first example, *ele* ‘3SG’ as [‘e.le], was also attributed to San Antonio by two participants.

(38)	Caridad	San Roque
<i>ele</i> ‘3SG’	[‘e.le]	[‘e.li]
<i>este</i> ‘this’	[‘es.te]	[‘es.ti]
<i>balde</i> ‘bucket’	[‘bal.de]	[‘bal.di]
<i>petate</i> ‘sleeping mat’	[pi.‘ta.te]	[pi.‘ta.ti]
<i>tiene</i> ‘have’	[‘tʃe.ne]	[‘tʃe.ni]
<i>San Antonio</i>	[sa.nan.‘to.njo]	[sa.nan.‘to.nju]
<i>pono</i> ‘tree’	[‘po.noʔ]	[‘po.nuʔ]

⁶⁰ Participant 21W-C had training in linguistics and also described the vowels as being in “free variation”. However, none of the other participants, including 25W-C, had any training in linguistics.

komo ‘why’

[‘ko.mo]

[‘ko.mu]

The examples in (38) are clearly related to the patterns of unstressed mid vowel raising in phrase-final position that were described in Chapters 5 and 6. Although Caridad also raises unstressed mid vowels in phrase-final position, the results of the word list task showed that the pattern is stronger in San Roque. The dialect difference was not found in the carrier phrase task, but evidently the pattern is very salient to Cavite Chabacano speakers.

The list of words in (38) also suggests that the raising of /e/ might be more salient to Chabacano speakers than the raising of /o/, which aligns with the findings in the word list and carrier phrase tasks that /e/ is raised more than /o/ when unstressed and final, and has less acoustic overlap with /i/ than /o/ does with /u/. (38) only has five /e/ examples compared to three /o/ examples, but the pronoun *ele/eli* was used as an example several times by different participants. One participant gave the following example of people in Caridad saying *ele* instead of *eli*: “*Por ehemplo, ‘Di eli akel payong’. Por ehemplo ansina. Aki na San Roque, ‘di eli akel payong’. Con ilo, ‘De ele akel, e!’ Ansina. El eli de ilos, ele. Kaya ta llama con ilo ‘ele ele’*” [‘For example, ‘That’s his umbrella’. For example, like that. Here in San Roque, ‘that’s his umbrella’. With them, ‘That’s his umbrella, e!’ Like that. Their *eli* is *ele*. So they are called ‘**ele ele**’”] (19M-C). The phrase “*De ele akel, e!*” was said with an exaggerated intonation pattern that seemed like it was meant to be humorous, and the last comment (*ta llama con ilo ‘ele ele’* [‘they are called

'*ele ele*']) suggests that this word may be commonly used as an example of the different pronunciation in Caridad.

Some of the participants referred to Caridad pronunciation as *abierto* 'open', *bukas* 'open', or *open*, and to San Roque pronunciation as *ipit* 'closed, clipped' or *closed*. These references to *abierto* and *ipit* pronunciation are related specifically to phrase-final mid vowel raising and not to raising in nonfinal position or to patterns involving other vowels, as evident from their specific commentary and examples of words like those in (37). *Abierto* 'open' refers to the pronunciation of the mid vowels as [e] and [o] and *ipit* refers to the pronunciation of the mid vowels as [i] and [u]. According to one participant from Caridad, for example, "In San Roque, they talk very- they say it closed. Like for example, *petate* ['sleeping mat'], they say *petati*. *Balde, baldi* ['bucket']" (25W-C). Another example is that in Calumpang in Caridad, "*ang salita nila ay bukas*" 'their speech is open', according to a participant from San Roque (12W-SR). One participant emphasizes, however, that the dialects are still basically the same: "*Parang, komo kel abierto-abierto el Chabacano de ilo kontra kel Chabacano de niso. Pero it's all the same, you understand*" ['It's like, their Chabacano is very open compared to our Chabacano. But it's all the same, you understand'] (11M-SR).

The examples in (38) attribute mid vowel raising to San Roque and not to Caridad or San Antonio, but there were two participants who differed from the common view and attributed mid vowel raising to Caridad instead. One participant described Calumpang as a place where fisherman live, "So, *el platica ellos ano, parang 'tieni* - instead of *tiene*, they say *tieni*. *Tieni*. '*Tieni nisos*' ... *Akel mga taga-Calumpang, tieni, not tiene*" ['So,

their speech is, it's like '*tieni*' ('have') – instead of *tiene*, they say *tieni*. *Tieni*. 'We have' ... Those people from Calumpang, *tieni*, not *tiene*.'] (24M-C). The same participant also described variation within San Roque, with Cagayan speakers also saying *tieni* instead of *tiene*, but San Jose speakers having the lower final vowel. He called Cagayan more vulgar compared to San Jose, which he sees as higher class. He also said that San Jose speakers pronounce the word *cumi* 'to eat' as [ku'me], with a lower final vowel. Similarly, participant 3M-SR, who is from a part of San Roque between Ganglely and San Jose, said that "in Ganglely they say *tieni*, *pero con niso, tiene*" ['in Ganglely they say *tieni*, but with us, it's *tiene*']. It seems that both of these participants perceive variation within San Roque.

7.4.2.2 "Intonation", *punto*, *tono*, and accent

The terms "intonation", *punto* (< Tagalog 'accent', from Spanish *punto* 'period, point'), and *tono* (< Spanish and Tagalog 'tone') were different words that were used in this task to mean 'accent'. The English words "accent" and "tone" were also sometimes used. From the examples that participants gave, these words sometimes seemed to refer to intonation with the linguistic definition, referring to the melody of utterances, but sometimes the terms were also used to refer to differences in vowel pronunciation, speech rate, other phonological differences, and even vocabulary and pronoun usage.

In terms of intonational or other prosodic differences, Calumpang was often singled out as being different not only from San Roque, but also the rest of Caridad. For example, one participant from Caridad commented that "*Na Calumpang, komo ta kanta*"

[‘In Calumpang, it’s like they’re singing’] (16M-C). Another participant from Caridad said, “*Di ba, parang may punto ang Chabacano nila e, parang komo kanta. Alla na calle Calumpang, si ta platika ilo, komo tiene, oo, komo tiene accent. Tiene punto*” [‘Right, it’s like their Chabacano has an accent, like they’re singing. There on Calumpang Street, if they talk, it’s like, yes, like they have an accent. They have an accent.’] (23W-C). This participant used both *accent* and *punto* to refer to this “singing” quality she perceives in Calumpang.

Speech rate was also mentioned in connection with “intonation” or *punto*. One participant from San Roque described Calumpang as not only *bukas* ‘open’, but also *mabilis* ‘fast’: “*Parang ano bukas e, tsaka mabilis ang ano nila*” [‘It seems open, and also their, you know, is fast’] (12W-SR). Two participants from Caridad also had similar opinions. When asked if there were different accents in Cavite, participant 25W-C replied, “Calumpang, even here in Sabana, Calumpang, Sabana. Those near the sea. They have different intonations *e*”.⁶¹ Upon asking how the intonation was different, she elaborated that “Sometimes they talk very fast. Especially Calumpang”. One Caridad participant who was from Calumpang (5W-C) also thought that people in her neighborhood sounded *mabilis* ‘fast’, which she also associated with sounding *reganyaw* ‘angry’.

Punto refers not only to prosodic differences, but also sometimes to vowel variation. For example, according to one San Roque participant, “*Alla na Calumpang tiene punto un poko e. Tiene words akel, ‘ele’*” [There in Calumpang they have an accent,

⁶¹ *E* is a frequently used sentence-final particle in Cavite Chabacano and Tagalog. It conveys an explanatory meaning like ‘because’ or ‘you see’ (Schachter & Otones 1972:462).

you see. They have words like *ele*’] (4M-SR). The *ele* example, with [e] as opposed to [i] in final position, is explicitly given as evidence of the Calumpang *punto*.

It seems that it is usually Caridad, and more specifically Calumpang, that is seen as having a different *punto*, “intonation”, or accent, and these observations were often accompanied by laughter. There were a few examples of these terms being applied to San Roque, but usually in a more positive light. For example, one participant said that in San Roque, *otro el accent* ‘the accent is different’ and that it was *mabilis* ‘fast’ (29W-C), and went on to describe it as sounding much nicer than the Caridad accent. These types of social evaluations of the accents are described further in 7.4.3.

7.4.2.3 Other phonological differences

In comparison to the commentary on vowel variation and possible prosodic differences, the participants did not comment as often on other types of phonological variation. However, there were a few isolated examples related to rhotic variation, /s/ aspiration, /d/ deletion, final stop devoicing in Tagalog words, and the pronunciation of Old Spanish /h/ in words like *hombre*.

One participant, talking about Cavite Chabacano in comparison to Spanish, referred to “shortcuts” in describing /d/ deletion: “And usually, Chabacano, they eat the *a-d-o*. For example *mechado* [‘beef stew’], we say *mechaw*. If you say *bañado* [‘bathed’], you say *bañaw*. *Peskaw*, *pescado*, *peskaw* [‘fish’]. We eat the *ado*. Shortcut” (25W-C). She was the only participant to comment on /d/ deletion. She also referred to “eating” the [d] in word-final position: “Sometimes we don’t say *usted*, but use *uste*. We, we eat the *d*.

But if you talk Spanish, you have to say the *d*” (25W-C). She also observed deletion in how people from Calumpang say *ustedes*: “Shortcut. When they say *ustedes*, they say *tede*”. A few other participants also noted that people in Caridad say [tedi].

The aspiration of coda /s/ and the alternation of coda /r/ and /l/ were only mentioned by one participant (the one who had linguistics training). She noticed that some people say the name *De Guzman* as [guh.man], and say [sel.ka] instead of [ser.ka] for ‘near’ (21W-C).

No participants mentioned preaspirated trills or the pronunciation of Old Spanish /h/ during the task unless I mentioned them first. Two participants said that they had heard people pronounce *perro* as [ˈpe.fro], with a preaspirated trill, but only after I asked them directly. Other participants did not know what I was talking about, which could be because of my non-native pronunciation, but people seemed to have no metalinguistic awareness of that variable in general. There was also only one participant who mentioned the pronunciation of /h/ in words like *hombre* (< [ˈhom.bre] in Old Spanish, [ˈom.bre] in Modern Spanish), and he mentioned it only after I asked about preaspiration in *perro*.

Finally, one participant mentioned the final devoicing of stops in Tagalog words like *itlog* → [it.ˈlok] ‘egg’, which seems to be considered non-native or nonstandard in Tagalog. It was a comment I heard a few other times while doing fieldwork, but not something that I actually observed in the data or during interactions with people in the field. However, German (1932) mentioned this final stop devoicing in his description of Cavite Chabacano. The participant (21M-C) mentioned that he used to laugh at his

mother for pronouncing Tagalog words like that. It seems that as Caviteños are becoming more dominant in Tagalog and English, final stop devoicing is no longer very common.

7.4.2.4 Second person pronouns

Although phonological variation is the main focus of this study, the participants commented upon variation in the second person pronouns so frequently that it is worth a brief discussion, especially since they may base their opinions about the different Chabacano dialects not only on phonological features, but on their overall impressions of the linguistic system as a whole. The commentary about pronoun usage, e.g. what sounds nice and what sounds rude, is also closely related to the commentary that people made about different vowel pronunciations and “intonations”, as 7.4.3 discusses further.

13 out of the 27 participants mentioned the use of the 2SG forms *bo* and *tu* as differing between dialects or between different social classes. The 2PL forms were not mentioned except in connection with how *ustedes* is pronounced (e.g. [ustedes], [ustedí], or [tedí]). The other 2PL form, *buso*, was not mentioned at all during the perceptual dialectology task, and it was something I never heard discussed in the field.

Some participants mentioned that *bo* is familiar and is supposed to be used with peers, e.g. within a *tropa* ‘group of friends’ or among siblings and cousins. Participant 25W-C explained that she usually uses *bo* because “We say *tu* with someone who is not very close to us. And *usted* with older people”. She does not see using *bo* (or [bos], in her pronunciation) as rude. However, this was not the majority opinion. As another participant put it, “*Ay! Dwele na orehas*” [‘Oh! It hurts my ears’] (4W-SA). The use of *bo*

instead of *tu* was called disrespectful and rude in several different ways: *nuay respeto* ‘no respect’, *nuay modo* ‘no manners’, *bastos* ‘rude’, *walang galang* ‘no respect’, and *not respectful*. *Tu* was described as *respectful*, *tiene respeto* ‘respectful’, *magalang* ‘respectful’, and *polite*.

There is apparently an element of class involved with these judgments. According to one participant who grew up in Caridad but had family connections to Cavite Puerto, “*Para niso mga elite, mi mga parientes, porkasa mga, a, edukaw y elite*, let's say, that- that *bo* is a bad word for us. If you are mad, you use that *bo*. If you got angry, you use that *bo*.” [‘For us the elite, my relatives, because they were educated and elite, let’s say, that- that *bo* is a bad word for us. If you are mad, you use that *bo*. If you got angry, you use that *bo*’] (22W-C). Participant 24M-C, who grew up in Caridad but has parents from San Roque, made a similar statement: “*Pero el San Roque, mas- mas-* what do you call this? Polite? Polite. They say *tu*. So my mo- *mi madre*, always, she say ‘*kumi ya tu*’. She doesn't say ‘*kumi ya bo*’. Because she's educated. So to differentiate herself from the fish vendors. Something like that. There's a hierarchy.” [‘But San Roque was more- more- what do you call this? Polite? Polite. They say *tu*. So my mo- my mom, always, she say *you (tu) eat now*. She doesn’t say *you (bo) eat now*. Because she’s educated. So to differentiate herself from the fish vendors. Something like that. There’s a hierarchy.” (24M-C).

Perhaps the reason that *bo* is perceived as rude is that the distinction in formality or politeness is fading for some speakers in Cavite. Some participants reported that it is now being used “*pati kon el mga bieho*” [‘even with old people’] (15M-C), which is

considered bad manners by those who still have the distinction. Others reported that their mothers used to get angry with them for calling them *bo*, and that people only use *bo* when they are angry. It is also possible that *bo* has a history of derogatory usage dating back to the Spanish period, as *vos* has a negative connotation in some Latin American dialects as well (Lipski 1986:6).

Many participants associated *tu* with San Roque and *bo* with Caridad, but there were some exceptions. One Caridad participant thought that Caridad said *tu* and San Roque said *bo*. The participant from San Antonio thought that both of the other districts used *bo* and were rude in comparison to people from her neighborhood. There were also certain neighborhoods in both Caridad and San Roque that were said to use *bo*: Calumpang, Cagayan, and Ganglely. As mentioned above, two participants associated the use of *tu* and *bo* not with dialect, but with social class or education.

7.4.2.5 Lexical variation

There were a few examples of lexical variation in Cavite Chabacano, but there was not as much commentary about it as there was about the second person pronouns, the vowels, or *punto* ‘accent’. One participant mentioned that in general in Cavite Chabacano, there is more mixing with Tagalog now. Her examples were Tagalog *tuloy* instead of *pasá* (< Spanish ‘pass’), Tagalog *masarap* instead of *sabroso* (< Spanish ‘delicious’), and Tagalog *malapit* instead of *serka* (< Spanish *cerca* ‘close, near’) (19W-SR). Similarly, another participant mentioned that older people say *biringhenas* ‘eggplant’ (< Spanish *berenjena*), but people his age say *talong* (< Tagalog ‘eggplant’)

(8M-SR). A third participant mentioned that people in Cagayan say *mag-asawa* ‘husband and wife’ (< Tagalog) instead of *maridable* ‘spouse’ (< Spanish ‘marital’) (19M-C). This participant also mentioned that his grandfather taught him *agua de olor* for ‘perfume’ (literally ‘scented water’), but that he has heard people incorrectly say *agua de dolor* instead, which is funny because *dolor* means ‘pain’.

Two participants mentioned lexical differences between Caridad and San Roque. According to one participant, the command to ‘remain standing’ is *lebanta ya lang tu* (< Spanish *levantar* ‘to rise’) in San Roque, but *para ya lang* (< Spanish *parar* ‘to stand up’) in Caridad (19M-C). Another participant thought that Caridad/Calumpang and his own San Roque dialect had different ways of saying ‘to be thirsty’. His examples were *tiene tu sed?* ‘are you thirsty?’ in Calumpang or Caridad but *kiere tu toma?* ‘do you want to drink?’ in San Roque (8M-SR). The use of *tiene* ‘have’ in his Caridad example is closer to the Spanish *tienes sed?* (literally, ‘do you have thirst?’), but he did not identify the Caridad phrase as sounding more Spanish.

7.4.3 *Social evaluation of perceived linguistic variation*

As hinted in some of the discussion of the participants’ comments in 7.4.2, there were often social evaluations about the linguistic variation or different dialects in Cavite Chabacano. In general, the social evaluations of the San Roque dialect tended to be positive, and the social evaluations of the Caridad dialect tended to be more negative. The different attitudes about the way Chabacano is spoken in different parts of the city are described below.

7.4.3.1 Beliefs and attitudes about San Roque and Caridad

In general, the speech of San Roque seems to be viewed more positively than that of Caridad. As mentioned above, it was usually Caridad, especially Calumpang, that was described as having an accent in comparison to other places in the city. Their accent was also more likely to be evaluated negatively, as shown in Table 43. The table summarizes the different adjectives or other phrases used to describe the two dialects. The table separates comments about each district according to where the people who made the comments were from. The numbers in parentheses indicate the number of participants who used each phrase.

	Caridad dialect	San Roque dialect
According to Caridad participants	<i>matapang el boses</i> ‘bold/brash voice’ (1) <i>reganyaw/galit</i> ‘angry’ (2) ordinary <i>lang</i> ‘just ordinary’ (1) <i>wala ng arte</i> ‘not artful’ (1) <i>parang probinsya</i> ‘seems provincial’ (1)	<i>malalambing</i> ‘sweet, tender’ (1) <i>mas bonito</i> ‘prettier’ (2) <i>mas bueno</i> ‘better’ (1) <i>parang taga-Manila</i> ‘like they’re from Manila’ <i>mayayaman</i> ‘rich’ (1) <i>tiene medio</i> class ‘sort of classy’ (1) <i>tiene arte</i> ‘artful’ (1) San Jose: <i>alta de sociedad</i> ‘high society’ (1) Cagayan compared to San Jose: vulgar (1)
According to San Roque participants	<i>maingay</i> ‘noisy’ (1) <i>ta asi ilo</i> slang ‘they do slang’ (1)	

Table 43. Social qualities associated with the Caridad and San Roque dialects

The number of comments in Table 43 is relatively small considering that there were 27 participants, most likely because of the open-ended nature of the task. For example, they were not asked to rate the districts in terms of any positive or negative qualities and were not presented with any forced-choice questions. However, there are some striking patterns in the descriptions summarized in Table 43. First, there were few overtly positive or negative comments made about either dialect by the participants from San Roque. This does not mean that they did not have any attitudes or opinions about the different districts. For example, many of their descriptions of the linguistic features associated with Caridad were accompanied by laughter, which is not captured by the table. However, in comparison, the participants from Caridad had more to say about their own dialect and about San Roque, and the nature of their comments perhaps indicates some linguistic insecurity.

One participant from Calumpang said that people from Caridad sound *pirmi reganyaw* ‘always angry’ (5W-C), contrasting what she described as the *matapang* ‘bold, brash’ accent of people in her neighborhood with the *malalambing* ‘sweet, tender’ sounding people of San Roque. She also said that they sound angry “*kahit ta tiene miedo minsan el mga kwan*” [‘even though sometimes people are scared’] by their accent. Caridad was also called *maingay* ‘noisy’ and was said to *asi slang* ‘do slang’ by people from San Roque. These comments were both direct references to how people in Caridad pronounce their vowels. For example, the *maingay* ‘noisy’ comment was made after

mentioning that people in Caridad have ‘open’ pronunciation (“*parang bukas ang mga bibig nila*” [‘it seems like their mouths are open’], 25W-C).

Two participants from Caridad said that the San Roque accent is *mas bonito* ‘prettier’ and another said that it was *mas bueno* ‘better’. Another participant from Caridad contrasted the two districts in these terms: “*Kasi na San Roque, el salita de ilo, a, otro el accent. Aki naman na Caridad, a, parang komo ano lang, parang probinsya. Aki na San Roque, parang taga-Manila*” [‘Because in San Roque, their speech, um, the accent is different. Here in Caridad, um, it’s just like, like it’s provincial. Here in San Roque, it’s like they’re from Manila’] (29W-C). When asked to elaborate on how San Roque speech is different, she replied:

Pwedeng mabilis ... tsaka ma- a, akel tiene arte. No kel gaya kel na Cavit-na Caridad, aki na Cabuco, ordinary el ano di ilo, platika di ilo. Ordinary lang. A, parang, parang mga, kosa kel? Parang ma-tone. Parang ma-tone, akel ansina ilo el ano platica. Wala ng arte. Ese, mga taga-San Roque, siguro mayayaman, kaya tiene medio class el accent. Akel, akel el sabe yo, ha?”

[‘It can be fast ... and also it’s- it’s artful. It’s not like here in Cavit- in Caridad, here in Cabuco, it’s just ordinary their, you know, their speech. Just ordinary. Um, it’s like, like, what’s that? Like it has a tone. Like it has a tone, the way they speak. It has no art. Those from San Roque, they are

probably rich, so their accent sort of has class. That, that's what I know, ha?"

Finally, Table 43 includes comments from one participant who grew up in Caridad, but whose parents are from San Roque. He described class differences within San Roque, calling Cagayan “vulgar” in comparison to San Jose, which he considered *alta de sociedad* ‘high society’ (24M-C). As mentioned in 7.4.2.4, he called San Jose more polite because they use *tu* instead of *bo*. Although comments about rudeness and respectfulness were common, they were not included in Table 43 because it was difficult to count when the pronoun usage was being called rude or respectful, as opposed to those qualities being associated with the whole dialects or the people themselves. However, as mentioned earlier, the polite and respectful pronoun *tu* was most often associated with San Roque and the rude and disrespectful pronoun *bo* was most often associated with Caridad, although there were some exceptions.

In general, San Roque and some of its linguistic features also seem to be more closely identified with Spanish than Caridad is. For example, one of the Caridad participants said that “*aki na San Roque, komo nga kwan del Español el kwan de ilo e, el palabra*” [‘Here in San Roque, it’s really like Spanish their, you know, the words’] (5W-C). She identified Caridad as using “*bo imbes tu*” ‘*bo* instead of *tu*’ and reported that “*Pag tu, kwan kel, Español. Pag bo, akel el Chabacano Tagalog*” [‘*Tu*, that’s Spanish. *Bo*, that’s the Tagalog Chabacano’]. Both pronouns are actually from Spanish, but she associated *bo* with more Tagalog-like Chabacano.

Some participants from San Roque also identified themselves as sounding more Spanish. When asked why he thought people in Cabuco and Calumpang speak differently from San Roque, one participant replied:

Akel el ano de ilo, komo style de ilo e. El platicada de ilo ansina e. Komo un punto nga e, ta llama niso punto. Kaya otro el platicada de ilo, otro el platicada de niso. Kasi nga, el mga aguelo y aguela de niso ta platica Castellano. Kaya nuay niso punto. El punto de niso kel punto de mga Español. Akel accent de mga Español. In San Roque kasi, akel mga hente antigo, ta platika ilo Castellano antes e, el mga hente.

[That's their, you know, like their style, you see. Their speech is like that, you see. It is truly like an accent, you see, we call that *punto*. So their speech is different, our speech is different. Because indeed, our grandfathers and grandmothers spoke Castilian. So we don't have an accent. Our accent is the accent of the Spanish. The accent of the Spanish. Because in San Roque, the ancient people, the people spoke Castilian before, you see.] (3M-SR)

Caridad, in contrast, is seen as a place where there is more mixing with Tagalog and there is an influx of Visayans or other people moving to the area. For example, in comparison to the more "Spanish" Chabacano of San Roque, participant 5W-C said that Caridad Chabacano was more Tagalog: "*El de niso, Tagalog el halo de ese*" ['Ours,

Tagalog is the mix’]. Some participants also mentioned that the population of San Roque is also *halo-halo* ‘mixed’, but overall, as the discussion of the maps showed, San Roque is still seen as the place where the most Chabacano is spoken and it is less mixed.

Another term for proper or unmixed Chabacano is *derecho* ‘right, straight’. According to the participant from San Antonio, the Chabacano of San Roque and Cavite Puerto is *derecho*, but in Caridad *tiene halo Tagalog* ‘there’s a Tagalog mix’ (4W-SA).

7.4.3.2 Beliefs and attitudes about other districts

There were few comments about Chabacano in other districts besides San Roque and Caridad because there are no longer very many speakers there. San Antonio was sometimes said to have a *punto* ‘accent’, and two participants mentioned that the 3SG pronoun *ele* is said there as [ele] instead of [eli], without phrase-final mid vowel raising. There were no social judgments made about the speech there except for one comment by the only San Antonio participant, who said that people there *tiene modo* ‘have manners’ compared to people in Caridad or San Roque because they do not use *bo* except in the proper contexts (e.g. between sisters).

Although Cavite Puerto was destroyed in WWII, a few participants made some comments about the Chabacano that was spoken there before the war. Cavite Puerto was where the Spanish lived until 1898, so the Chabacano there is said to be more Spanish and have very little Tagalog influence. One participant in her 80s indicates that the population was also more mixed with Spanish: “They don't have so much Tagalog words. More Spanish. And most of them are mestizos. Mestizas, most of them” (25W-C).

Another participant, also in her 80s, remembers that “*El platikada ilo, puro Español*” [‘Their speech was pure Spanish’]. A younger participant mentioned some shifting social dynamics over the course of history: “*El mirado de ilo kon el de San Roque, de Caridad, de Santa Cruz o de San Antonio, komo mas baho un poko kon ilo porkasa ilo ta na dentro del kwan del Español. Ora al kabal del kwan, del Rebolusyon, komo ya keda pare-pareho mas ilo todo*” [‘Their outlook on those from San Roque, Caridad, Santa Cruz, or San Antonio was as if they were lower than them because they were inside the Spanish town. Then after the, you know, the Revolution, it’s like they all became more similar’]. However, even after the destruction of Cavite Puerto, there are still descendants of Cavite Puerto families living in San Roque and Caridad who are seen as elite or who refer to themselves as such.

7.4.3.3 Linguistic authenticity in Cavite City

One other common theme that arose in the commentary during the perceptual dialectology task was that of authenticity, related to how Chabacano speakers position themselves and are seen by others within the changing linguistic landscape of Cavite City. While recruiting participants during fieldwork, I was often referred to certain people who were *lehitimo* ‘legitimate’ or met people who called themselves that. This term came up repeatedly during sociolinguistic interviews and the perceptual dialectology task as well. The theme of authenticity is also related to the nostalgia associated with Chabacano. As mentioned in Chapter 2, attitudes toward Chabacano in Cavite City are positive, but passive concerning its endangerment. Its use in public domains is relegated to ceremonial

or symbolic contexts (e.g. religion, greetings, and tourism slogans) and Cavite Chabacano texts always focus on the topics of religion, historical events that occurred in Cavite City, or what Cavite City was like before World War II (Lesho & Sippola 2013).

Based on participant comments from this task and during field observation, Chabacano speakers from all districts seem to be considered *lehitimo*, and the term is applied more often to older speakers or to people who are from the old Cavite families. The term “original Caviteño” (in English) was also used in a similar way. Younger people who have Chabacano heritage but do not speak the language or do not feel fluent in it (even if they are) do not seem to call themselves *lehitimo*, but rather use the term to refer to their parents, grandparents, or other older relatives.

Lehitimo and the English word *original* are used to identify Chabacano speakers as the “real” residents of Cavite City, as opposed to people who speak Tagalog or other languages. Frequent references are made to *mga dayo* ‘foreigners, outsiders’, *mga Muslim* ‘Muslims’ (i.e. people from the South Philippines), *mga Visaya* ‘Visayans’, Ilocanos, or other Filipinos from different regions who now live in parts of the city where *nuay ma mga lehitimo* ‘there are no more legitimate people’. For example, while discussing where Chabacano is still spoken in Caridad, one participant said, “*El palabra de ilo otro. Tiene talaga kel- kel mga Visaya, ta platika kwan el Visaya de ilo. Tiene ta mag-Tagalog kel mga de apwera. Pero pag lehitimo talaga, taga- taga-San Roque, taga-Caridad, Chabacano*” [‘Their words are different. There are really the- the Visayans, speaking their Visayan. There are people speaking Tagalog, those from outside. But the really legitimate, from- from San Roque, from Caridad, are Chabacano’] (5W-C).

Lehitimo also seems to be used to refer to people who have historical roots in Cavite going back to the Spanish period. For example, one participant is the grandson of a revolutionary hero and local historian who was also one of the first municipal presidents of Cavite City after the end of the Spanish period. During the map task, he recalled that he did not speak Chabacano as much when he was younger, but chose to speak it more to preserve his heritage: “*Pero ora, kwando yo trabaha na- kwando yo trabaha na Olangapo, talla mucho Caviteño, konosido kon mi mga agwelo, y kon mi tata. Ya abla konmigo, ‘tu el legítimo Caviteño. Platika Chabacano’*” [‘But then, when I worked in- when I worked at Olangapo,⁶² there were a lot of Caviteños there, who knew my grandfather, and my father. They said to me, “You are a legitimate Caviteño. Speak Chabacano”’] (3M-SR).

While the remaining Chabacano speakers from San Roque, Caridad, and San Antonio are all generally considered *lehitimo*, the associations with the way they speak are still different, as described in 7.4.3.1, and San Roque seems to be seen as the stronghold of Chabacano, either because it has the most Chabacano speakers left or because of its more prominent role in Cavite history. One participant commented that it is San Roque that speaks *derecho* ‘right, straight’ compared to Caridad because they are *lehitimo*, but Caridad is becoming more mixed (4W-SA).

There is also another term that was applied to Caridad by a few participants that seems to be related to authenticity as well, but of a different sort. Some participants referred to Caridad as *tierra popo* ‘muddy land’. Caridad used to be the hacienda

⁶² Olangapo is another place where the U.S. also had a naval base, just across Manila Bay. Many Caviteños worked there.

Estanzuela (see 2.4.2), so it was formerly a more rural area and apparently it floods there occasionally. The Calumpang barrio is also described as a place where fishermen live. *Tierra popo* seemed to be associated with the speech of Caridad as well as the place, and with being *lehitimo* to that area. For example, one San Roque participant associated the “open” vowel pronunciation of Caridad with being *tierra popo*: “*Parang bukas ang mga bibig nila, kaya tierra popo ... oo, we call them tierra popo. Because, kasi, ang salita nila ay bukas*” [‘It seems like their mouths are open, so they are “muddy land” ... yes, we call them “muddy land”. Because, because, their speech is open’] (12W-SR). The term *tierra popo* ‘muddy land’ seemed to be very funny to her and other people observing the elicitation session.

In Caridad, however, *tierra popo* does not seem to be viewed negatively. When asked to define what *tierra popo* meant, one participant from Calumpang defined it not with the literal translation ‘muddy land’, but rather used the term to define the people from Calumpang: “*El popo akel, kwan, na de sea. Mm, kel nga komo since birth alla el ta keda. Ansina. Parang, legitimate kwan sila talaga dito*” [‘*Popo* are those, you know, from the sea. Hm, those indeed who lived there since birth. Like that. Like, they are really legitimate there’] (5W-C).

Overall, Caridad seems to be viewed as legitimate in terms of being part of the original Cavite population, but it has an image that is more rustic in comparison to that of San Roque.

7.5 Discussion

The perceptual dialectology task provided some insights into where participants think Chabacano is still spoken, which features they are metalinguistically aware of, what kinds of attitudes they have toward variation in the language, ideologies about how the different dialects are related to the superstrate and substrate languages, and how Chabacano is viewed in comparison to other languages now present in the city. In this section, I summarize how the folk beliefs revealed in this task align with actual observed linguistic production, and discuss how the results of the task contribute to the understanding of how Cavite Chabacano developed linguistically within the sociohistorical context.

7.5.1 Folk perception of linguistic features and observed production

In terms of specific linguistic features, the participants had the greatest metalinguistic awareness of variation in the second person pronouns and unstressed phrase-final mid vowel raising. They also commonly perceived intonational or other prosodic differences, but these impressions were more vague and did not focus on easily identifiable linguistic features. There was also some evidence from their commentary that their use of words like “intonation” or *punto* ‘accent’ are not restricted to intonational or prosodic features, and can sometimes also refer to vowel variation or perhaps even other differences. There were very few comments made about other types of variation in Cavite Chabacano, either phonological, lexical, or syntactic.

The examples that the participants gave of vowel variation focused very specifically on the mid vowels in phrase-final contexts. Mid vowel raising or reduction in unstressed nonfinal positions was never imitated, probably because they are not prosodically prominent and both districts have consistent raising, reduction, or vowel category overlap in that position. Most of the examples that participants gave had /e/ raising to [i], although there were also a few examples of /o/ raising to [u]. This result aligns with both the historical phonology of Tagalog and the phonetic results of this study from Chapter 6.

Tagalog had a sound change of phrase-final high vowel lowering that affected /o/ earlier or more completely than it affected /i/, as discussed in Chapter 2.6.4. Modern Tagalog phrase-final /i/ is still lowered less to [e] compared to how consistently /u/ is lowered to [o] (Gonzalez 1970:20). In other words, phrase-final /i/ in Tagalog remains higher compared to /u/, and /i/ and /e/ seem to overlap less in the vowel space compared to /u/ and /o/. Similarly, the phonetic results of the Cavite Chabacano vowels in Chapter 6 suggested that there is higher raising of /e/ than of /o/ partly because there is more room in the front of the vowel space compared to the complete overlap of the back vowels in unstressed and even some stressed contexts. These phonetic facts perhaps make the /e/-raising in Cavite Chabacano seem more noticeable than /o/-raising. While both San Roque and Caridad have some degree of phrase-final /e/-raising, the word list task results suggested that the effect is stronger in San Roque, although this dialectal difference was not found in the carrier phrase task. However, most of the participants who commented on phrase-final mid vowel raising attributed it to San Roque.

The results of the perceptual dialectology task also suggest some possible areas for further investigation. Because prosodic differences seem to be very salient to Cavite Chabacano speakers, future studies should further focus on that aspect of the phonology. Phonetic perception studies would also be useful to follow up on the findings about the folk perception of mid vowel raising or other phonological variables discussed in this study.

7.5.2 *Linguistic variation and identity in the sociohistorical context of Cavite*

The difference in the attitudes toward Caridad and San Roque today reflect the historical relationship between them during the Spanish era. Historically, both places have humble roots, since the Filipino laborer class lived in those areas and the Spanish lived inside the walls of Cavite Puerto. Some participants mentioned that during the Spanish era, the Calumpang and Cagayan barrios were home to fisherman, and San Jose is where the carpenters lived. These comments match the descriptions of the different barrios in Pangilinan's (1926/2001) history of Cavite. There are also still fishermen in Calumpang and perhaps in Cagayan today.

However, as discussed in Chapter 2.4, it seems that San Roque has had a more central role in Cavite City history and in national history compared to Caridad. It was established as a town at the same time as Cavite Puerto in 1614, and Caridad did not become a separate town until 1868. Before Caridad was a town, it was a privately owned *hacienda* where various crops were grown (Pangilinan 1926/2001). The rural nature of early Caridad likely accounts for why there is still a barrio there today called Sabana (<

Spanish ‘plain, savannah’). According to Medina (2001:48), Caridad and the neighboring town Noveleta, along with several other towns in Cavite province, were founded during the 1800s as an attempt to curb the *tulisanismo* ‘banditry’ that was plaguing the countryside. Pangilinan’s (1926/2001) account also makes brief references to *tulisanes* ‘bandits’ in Caridad. San Roque, in contrast, had developed a middle and upper class by the 1800s, including many Chinese-Filipino mestizos. San Roque eventually came to play an important role in the Philippine Revolution against Spain, and many national heroes came from there.

It seems that the different histories of Caridad and San Roque account for some of the lingering linguistic differences and class distinctions between them today. For example, one Caridad participant described her district as sounding provincial, even though the whole peninsula is now a uniformly settled area. Another interesting result of the perceptual dialectology task is that San Roque is perceived to be closer to Spanish, while Caridad is perceived to be closer to or more mixed with Tagalog. For example, one participant thought that *bo* was “Tagalog Chabacano” and that *tu* was more Spanish, even though both pronouns come from Spanish. The more “rude” form was perceived to be associated with the substrate. There were claims of mixing with the Tagalog population in both districts, but Caridad was said to be *halo Tagalog* ‘mixed with Tagalog’ more often. However, it is unclear that this is actually the case. Tagalog is now the dominant language of San Roque as it is in the rest of the city, and trilingual Chabacano-Tagalog-English codeswitching seems to be very common in both districts, as illustrated by the quotes from the participants in section 7.4. Participants often called other people more

“mixed” while codeswitching themselves, as in the following (with English and Tagalog words marked in bold): “*Tiene kel mga ta meskla ya ilo Tagalog, pag no ilo ta **mag-grasp** akel word na Chabacano e. Ta meskla ya ilo Tagalog ... tiene nga kwan e, insidente minsan, **English** pa **the word** ta si kwan e, si no rin ilo **mag-grasp** na Tagalog e*” [‘There are those who already mix with Tagalog, when they don’t grasp the Chabacano word, you see. They mix with Tagalog ... there are indeed incidents sometimes when even English is the word, if they don’t grasp the Tagalog word either, you see’].

Whether San Roque Chabacano historically was actually closer to Spanish than Caridad Chabacano is uncertain. Both dialects would have been less close to Spanish than the Chabacano of Cavite Puerto. Linguistically, the San Roque and Caridad dialects today are very similar to each other. As many of the participants put it, there is variation in how the phrase-final mid vowels are pronounced and there are a few other kinds of linguistic differences, but these are all relatively minor, and overall the two dialects are considered *pareho lang* ‘just the same’. In fact, in terms of the vowel system, substrate influence is evident in both Caridad and San Roque, but if anything, it is actually Caridad that is slightly closer to Spanish because the front vowel categories are somewhat more distinct than they are in San Roque and the overall vowel system is more dispersed.

Both dialects are quite close to the superstrate in terms of maintaining the distinctions between /r/ and /r/ and between /j/ and /ɣ/. As discussed in Chapters 2 and 5, the presence of these distinctions indicates that people in both districts had a high level of access to standard Peninsular or Philippine Spanish in the 1800s, when /ɣ/ was most

likely introduced. There is also evidence that Cavite Chabacano originally had more popular Mexican Spanish features (e.g. coda /s/ aspiration), but these are no longer productive because standardization took place after exposure to the more conservative Peninsular variety (Lipski 1986). Yet despite standardizing in terms of these consonantal features, the vowel system seems to have retained features of L1 Old Tagalog influence and possibly the older Mexican influence (if the original Spanish input had mid vowel raising).

A possible explanation of why mid vowel raising was retained to some extent in both Caridad and San Roque, but especially in the latter, is that it was used as a marker of ethnic identity to maintain distinction from both the Spanish as well as other Tagalogs in the area, who by the late 1800s also had a 5-vowel system due partly to Spanish contact and internal changes. Even today, as Cavite Chabacano is severely endangered and people are using Tagalog in most domains, the Tagalog-origin words are still pronounced closer to how they were in Old Tagalog (e.g. *ubi* ‘purple yam’ instead of Modern Tagalog *ube*), even though the Cavite City Tagalog accent now seems to be close to the modern Manila standard. Roberts (2004) argued that linguistic and stylistic differentiation from both the superstrate and the substrate occurred in the formation of Hawaiian Creole. A similar process may have occurred during the restructuring of the Cavite Chabacano vowel system and its subsequent development over time.

I make this claim about ethnic identity cautiously, as the results of the perceptual dialectology task and the phonetic tasks are based on modern speech, and there is no record of what people’s attitudes toward the different linguistic features would have been

in the 1800s or earlier. However, phrase-final mid vowel raising would likely have been noticeable to others as nonstandard in the late 1800s, and the perceptual dialectology task confirmed that Caviteños today are very metalinguistically aware of it, more than any other linguistic feature except for the second person pronoun variation. It is seen as one of the defining features of the San Roque accent.

Today that accent is also viewed as sounding prettier, better, and more high class. It is now seen as more Spanish than other varieties in the city today, but that view may be a more recent phenomenon as Chabacano is becoming more endangered and taking on symbolic association with the past and with the Spanish-influenced heritage of the city. The prestige that Spanish once had seems to have been transferred to San Roque, as that district has continued to be politically powerful since the Spanish lost the colony after the Revolution in 1898 and the old Spanish center, Cavite Puerto, was destroyed during WWII.

7.6 Summary

The results of this task showed that unstressed mid vowel raising in phrase-final position is very salient to Cavite Chabacano speakers linguistically and also socially, in concert with variation in the second person pronouns and possibly in the prosody. Metalinguistic awareness of other kinds of phonological variation was very low. Mid vowel raising and the use of the different second person pronouns were discussed by the participants in ways which highlighted the social as well as the linguistic differences

between Caridad and San Roque. Chabacano speakers in both districts are authenticated as the *lehitimo* ‘legitimate’ residents of Cavite City, but the San Roque speakers seem to be viewed as higher in social class and more associated with the Spanish history of the city. The results of the task also document where in the city people believe Chabacano to still be spoken, which may be of use to future fieldworkers or those interested in preserving the language.

This study demonstrated that perceptual dialectology is a useful tool for investigating the sociolinguistic dynamics of creole or other multilingual situations. The methodology showed insight into how the participants perceive variation in their language and how they view their dialects in relation to each other, the superstrate, the substrate, and other languages now present in Cavite City. These insights also contribute to the documentation of the state of language endangerment in Cavite City as shift to Tagalog and English takes place in almost every domain.

Chapter 8: Conclusion

8.1 The sociophonetics, phonology, and folk perception of Cavite Chabacano

The three main parts of this study combine to form a detailed account of the phonological, phonetic, and sociohistorical factors that affected the development of the Cavite Chabacano vowel system under influence from the superstrate and the substrate. The major findings of the analyses from Chapters 5-7 are summarized below in 8.1.1, and 8.1.2 discusses how these different findings contribute to the overall picture of how the Cavite Chabacano system formed, with reference to theories about second language phonetic restructuring and the organization of the vowel space. The broader implications of the study are summarized in 8.2.

8.1.1 Summary of the main results

The first part of the study was broad in scope, giving an overview of modern Cavite Chabacano phonology at the segmental and prosodic levels, comparing the findings to previous work on Cavite Chabacano (German 1932, Ramos 1963) and other

Chabacano varieties (Ing 1968, Riego de Dios 1989, Sippola 2011), discussing synchronic variation, and discussing diachronic variation as it is related to superstrate and substrate influence. The phonological description identified 5 vowels and 20 consonants in Cavite Chabacano. There was also discussion of synchronic variation and the diachronic development of the Cavite Chabacano phonological system, based partly on Cavite Chabacano data from German (1932), work by Lipski (1986, 1987) on the history of Spanish in the Philippines, and research on the synchronic and diachronic phonology of Tagalog (e.g. Reid 1973, Soberano 1980, Gonzalez 1970). Data from German (1932) were used to illustrate the fact that although Cavite Chabacano words generally are quite close to their Spanish origins, there are some words that differ from Spanish in ways that indicate early influence from the original L1 Old Tagalog. As Cavite Chabacano developed and the speakers became bilingual with Spanish, they acquired first the original Mexican Spanish forms and later the more conservative and standard Peninsular Spanish forms quite faithfully.

The second part of the study focused more narrowly on the fine-grained details of the modern Cavite Chabacano vowel system, based on the word list task and the carrier phrase task. The sociophonetic analysis showed how vowel quality and duration are conditioned by lexical stress and phrasal position. Unstressed vowels are spectrally and temporally reduced compared to stressed vowels, and phrase-final vowels have significantly longer duration and greater dispersion regardless of stress. Unstressed vowel reduction and phrase-final lengthening are characteristic of the substrate Tagalog, but not most dialects of the superstrate Spanish.

The phonetic results also showed that both the Caridad and San Roque dialects of Cavite Chabacano have unstressed mid vowel raising, but phrase-final /e/ tends to be the most raised, especially in San Roque. Unstressed /o/ has some degree of raising as well, but it seems to occur more in nonfinal than in final position. Overlap between the mid and high back vowel categories is much higher than it is for the front vowel categories, not so much due to the raising of /o/ as to the low position of /u/. Overall, the acoustic space in the back vowel subsystem is much smaller compared to the front vowel subsystem. In addition to phrase-final mid vowel raising, dialectal variation was also found in terms of the overall dispersion of the vowel space. San Roque had high dispersion of /e/ in phrase-final unstressed position because of the lowering of F1, but overall its vowel system was less dispersed compared to that of Caridad.

The third part of the study used a perceptual dialectology map task to document where Chabacano is believed to be spoken in Cavite City, what kind of variation the participants have metalinguistic awareness of, what their attitudes are toward that variation, and how they view each other's dialects and Cavite Chabacano more generally in relation to the superstrate, substrate, and other languages that are present in Cavite City today. The task showed that the variation in the vowel system that was the main focus of this study was very salient to the participants. Their folk perception of the vowel variation was quite close to the actual patterns documented in their speech. The task also showed how variation in mid vowel raising, along with other linguistic features, contributed to the perception of social differences between the Cavite Chabacano dialects. Chabacano speakers in both districts are authenticated by others and by

themselves as the *lehitimo* ‘legitimate’ residents of Cavite City, but the San Roque dialect has higher prestige, which is based partly on historical settlement patterns and partly on the prominent role that San Roque has played in local and national history. It may be the case that the substrate-influenced feature of unstressed phrase-final mid vowel raising, which is associated with the prestigious San Roque dialect now but likely would have been seen as nonstandard in the late 1800s, was retained as a way of distinguishing Chabacanos from their Spanish- and Tagalog-speaking neighbors.

8.1.2 The origins and development of the Cavite Chabacano vowel system

Putting together the pieces of these three different parts of the study, the following account of the origin and subsequent development of the Cavite Chabacano vowel system is proposed.

First, L1 Old Tagalog speakers in Cavite had a 3-vowel system which acoustically may have had a smaller vowel space compared to the 5-vowel system of Spanish, according to the principle of sufficient contrast in Adaptive Dispersion theory (Lindblom 1986). The two additional vowels of the Spanish system, /e/ and /o/, would initially have been difficult for the Tagalog speakers to perceive, and the sounds would have undergone equivalence classification to the native category that it was perceived to be the most similar to (Flege 1995). The most likely category for Spanish /e/ to be assimilated to was Tagalog /i/ because they are both front vowels, and the most likely category for Spanish /o/ to be assimilated to was Tagalog /u/ because they are both back vowels. However, German (1932) also shows some examples of changes from Spanish mid vowels to

Cavite Chabacano vowels that do not have the same front or back place features, e.g. Spanish *ostión* ‘oyster’ > Cavite Chabacano *istiones* or *estiones*, or Spanish *verraco* ‘boar’ > Cavite Chabacano *barako*. The reason for these types of changes is likely that in unstressed position, the Spanish mid vowels may have been harder for L1 Tagalog speakers to perceive early on in the contact situation, and with their smaller vowel space and reduction of unstressed vowels, their production of the Spanish unstressed mid vowels may have sometimes resulted in these changes.

As the L1 Tagalog speakers more fully acquired the Spanish mid and high vowel contrasts, their vowel spaces would have undergone phonetic restructuring to accommodate the new categories, similar to the contact situations with Spanish and Quechua, which also has a 3-vowel system (Guion 2003, O’Rourke 2010). The vowel space may have been reorganized to be more dispersed and have less acoustic overlap between categories. The phonetic results of this study show that in modern Cavite Chabacano, both dialects maintain acoustic distinction between the mid and high vowels in stressed position, but not in unstressed position, and that there is an asymmetry between the front and back vowel subsystems in the vowel space. The back vowel categories have much greater overlap than the front vowels do. This result may be the result of substrate influence. No phonetic study has been done to confirm, but based on synchronic and diachronic evidence, Tagalog also seems to have more overlap of the back vowels than the front vowels.

The dialectal variation between Caridad and San Roque also seems to be related to differences in the level of phonetic restructuring that took place. Compared to Caridad,

San Roque has more unstressed phrase-final /e/ raising, which is a substrate feature from Old Tagalog that possibly could have been reinforced by the original Mexican Spanish input, as unstressed mid vowel raising has also been documented in some central Mexican dialects (Parodi & Santa Ana 1997). San Roque also has an overall less dispersed vowel system than Caridad. These differences may indicate that the Caridad speakers restructured their phonetic spaces to a greater degree than San Roque speakers in order to accommodate the mid/high vowel contrasts of Spanish. However, substrate influence in the pronunciation of the vowels in different prosodic contexts is strong in both dialects.

The phonetic results and the perceptual dialectology results align very nicely with the facts about the historical phonology of the Tagalog vowel system. Unstressed phrase-final /e/ is raised more than unstressed phrase-final /o/ is, and the participants also had higher metalinguistic awareness of /e/ raising in that position. As described in the review of Tagalog phonology in Chapter 2.6.4, there was a sound change involving the lowering of phrase-final high vowels from /u/ and /i/ to [o] and [e] (Reid 1973) that seems to have affected /u/ earlier than it affected /i/, or perhaps the change occurred around the same time but there was simply more acoustic overlap between [u] and [o] than there was between [i] and [e]. Modern Tagalog is also reported to have only [o] in final position, but [i] still alternates with [e] (Gonzalez 1970). There are also modern dialects from the Southern Tagalog region, which includes Cavite, where phrase-final high vowel lowering is not as common as it is in the northern region (Manuel 1971, Soberano 1980). These historical facts mean that the original Old Tagalog input into Cavite Chabacano would

likely have not had phrase-final /i/ lowering even if they did have phrase-final /u/ lowering. Phrase-final raising of Spanish /e/ would have taken place and perhaps have been more common than phrase-final raising of Spanish /o/.

By the late Spanish period in the 1800s, after Mexican independence, Cavite Chabacano speakers were exposed to a more conservative, standard Peninsular Spanish variety that would have had all five vowels distinct in all prosodic conditions (if they were not already exposed to such a vowel system in the Mexican Spanish before that). As Lipski (1986, 1987) describes, Cavite Chabacano conformed phonologically to the new Peninsular standard in many ways during the late 1800s, for example, by no longer aspirating coda /s/ productively and by acquiring the distinction between /k/ and /j/. However, unstressed mid vowel raising, especially in phrase-final position, was apparently retained in San Roque and to some extent in Caridad, despite exposure not only to Peninsular and Philippine Spanish but also to the 5-vowel, phrase-final high vowel lowering system of Modern Tagalog. Chabacano speakers during this time period were fluent in Spanish as well as Chabacano and Tagalog. Phrase-final mid vowel raising would likely have been noticed and perhaps stigmatized by others who spoke standard Spanish or Tagalog.

Initially, unstressed mid vowel raising in Cavite Chabacano arose as a substrate feature, possibly reinforced by the original Mexican superstrate. However, it seems that its retention during the period of standardization in the late 1800s was motivated not by linguistic factors such as substrate influence, but by sociohistorical factors that influenced ideology and the maintenance of a distinct ethnic identity. The results of the perceptual

dialectology task showed that unstressed phrase-final mid vowel raising is one of the linguistic features that Chabacano speakers today have the most metalinguistic awareness of, and they associate it with San Roque in particular. The San Roque dialect is in turn associated with much more positive social qualities compared to Caridad. It is uncertain whether Chabacano speakers of the late 1800s would have had the same kinds of language attitudes that their grandchildren in this study have today, but it seems likely that social and ideological factors had some role in shaping the vowel system along phonological and phonetic factors, which would explain why this substrate feature was retained despite the acquisition of other standard Peninsular Spanish phonological features.

8.2 Broader implications

Phonological and sociolinguistic Chabacano studies have been relatively rare, and no previous study on Chabacano has ever used phonetic methods. The origins of the different Chabacano varieties and the relationships between them are still unclear, and studies in these areas can potentially be used to shed light on these issues. This study provides a detailed phonological and phonetic description of Cavite Chabacano that hopefully can serve as the basis for future comparative studies across Chabacano varieties.

Beyond the niche of Chabacano studies, this dissertation also contributes to the literature on Ibero-Asian creoles, Spanish contact more generally, and Tagalog historical

phonology. While the acoustic quality of Spanish vowels is thought to be stable across varieties (Quilis & Esgueva 1983, Morrison & Escudero 2007), variation has been found in Spanish vowel systems influenced by language contact (Guion 2003, Willis 2008, O'Rourke 2010). This study shows that Spanish creoles can have similarly restructured vowel systems. The data on the vowel system of Cavite Chabacano also provides some insight into the history of the Tagalog vowel system, which also changed under influence from Spanish contact over the course of the colonial period as well as from internal factors. The creole was shown to preserve substrate features of Old Tagalog, indicating that the sound change of phrase-final high vowel lowering did not occur in Cavite Tagalog until after creolization took place.

This study also demonstrates that perceptual dialectology is a useful tool for studying the social dynamics of situations involving creoles, multilingualism, or language endangerment. The results of the task showed how Cavite Chabacano speakers view variation in their language and how they position themselves within the physical and social landscape of the city in relation to other languages. The map task is also useful for documenting where in the city the language is still spoken, which may be of use to future fieldworkers and language activists, and for documenting attitudes related to the endangerment or vitality of the language.

Finally, this study contributes to debates in creole studies on how phonological restructuring takes place, demonstrating that phonetic and sociolinguistic factors should not be overlooked in accounting for how creole phonological systems form and develop over time. Studies on second language acquisition show that restructuring takes place at

not only the phonological level, but also at the phonetic level. Phonetic restructuring should be considered in the study of creole formation as well. Sociophonetic methods in creole studies are underutilized, but there is great potential in using them to further investigate issues of substrate influence, especially when paired with a diachronically informed approach.

References

- Albalá, Paloma. 2003. Hispanic words of Indoamerican origin in the Philippines. *Philippine Studies: Historical and Ethnographic Viewpoints* 51(1). 125-146.
- Alber, Birgit & Ingo Plag. 2001. Epenthesis, deletion and the emergence of the optimal syllable in creole: The case of Sranan. *Lingua* 111(11). 811-840.
- Anderson, Victoria B. 2006. Lexical stress without postlexical head-marking: Evidence from Tagalog. *Journal of the Acoustical Society of America* 120(5). 3092-3092.
- Arends, Jacques. 2008. A demographic perspective on creole formation. In Silvia Kouwenberg & John Victor Singler (eds.), *The handbook of pidgin and creole studies*, 309-331. Chichester, West Sussex: Wiley-Blackwell Pub.
- Asociacion Chabacano del Ciudad de Cavite. 2008. *Diccionario Chabacano del Ciudad de Cavite*. Cavite City: Office of the City Mayor.
- Baayen, R. Harald. 2008. languageR: Data sets and functions with *Analyzing Linguistic Data: A practical introduction to statistics*. R package 1.4 (12/30/2011). <http://cran.r-project.org/src/contrib/Archive/languageR/>
- Baayen, R. Harald. 2012. Mixed-effects models. In Abigail C. Cohn, Cécile Fougeron, & Marie K. Huffman (eds.), *The Oxford handbook of laboratory phonology*, 668-667. Oxford: Oxford University Press.
- Bakker, Peter. 2009. Phonological complexity in pidgins. In Nicholas Faraclas & Thomas B. Klein (eds.), *Simplicity and complexity in creoles and pidgins*, 7-27. London: Battlebridge.
- Bates, Douglas, Martin Maechler & Ben Bolker. 2013. lme4: Linear mixed-effects models using S4 classes. R package 0.999999 (6/23/2012). <http://cran.r-project.org/web/packages/lme4/index.html>
- Beckman, Mary & G. Elam Ayers. 1997. Guidelines for ToBI labeling, Version 3. Ohio State University.
- Bell, Allan. 1997. Language style as audience design. In Nikolas Coupland & Adam Jaworski (eds.), *Sociolinguistics: A Reader and Coursebook*, 240-250. New York: St. Martin's Press.

- Best, C.T. 1995. A direct realist view of cross-language speech perception. In Winifred Strange (ed.), *Speech perception and linguistic experience: Issues in cross-language research*, 171-204. Timonium, MD: York Press.
- Best, C.T. & M.D. Tyler. 2007. Nonnative and second-language speech perception: Commonalities and complementarities. In O.-S. Bohn & M.J. Munro (eds.), *Language experience in second language speech learning: In honor of James Emil Flege*, 13-34. Philadelphia: John Benjamins Publishing Company.
- Bickerton, Derek. 1984. The language bioprogram hypothesis. *The Behavioral and Brain Sciences* 7. 173-221.
- Blust, Robert. 1998. Austronesian diphthongs once again. *Oceanic Linguistics* 37(2), 354-362.
- Boersma, Paul. 1998. *Functional Phonology*. Leiden: Holland Academic.
- Boersma, Paul & David Weenink. 2013. Praat: Doing phonetics by computer. Version 5.3.53(April 7).
- Bohn, Ocke-Schwen & James Emil Flege. 1997. Perception and production of a new vowel category by adult second language learners. In Allen James & Jonathan Leather (eds.), *Second language speech: Structure and process*, 53-73. Berlin: Mouton de Gruyter.
- Bond, Z.S. 2005. Slips of the ear. In David B. Pisoni & Robert Ellis Remez (eds.), *The handbook of speech perception*, 290-310. Malden, MA: Blackwell Pub.
- Borromeo, Soledad Masangkay. 1974. *El Cadiz Filipino: Colonial Cavite, 1571-1896*. Berkeley: University of California, Berkeley dissertation.
- Borromeo-Buehler, Soledad. 1985. The "Inquilinos" of Cavite: A social class in nineteenth-century Philippines. *Journal of Southeast Asian Studies* 16(1). 69-98.
- Boyd-Bowman, Peter. 1952. La pérdida de vocales átonas en la altiplanicie mexicana. *Nueva Revista de Filología Hispánica* 6. 138-140.
- Bradlow, A. 2002. Confluent talker-and listener-oriented forces in clear speech production. In C. Gussenhoven & N. Warner, (eds.), *Laboratory Phonology 7*, 237-274. Berlin: Mouton de Gruyter.
- Brousseau, Anne-Marie. 2011. One substrate, two creoles: The development of segmental inventories in St. Lucian and Haitian. In Claire Lefebvre (ed.), *Creoles, Their Substrates, and Language Typology*, 105-126. Amsterdam: John Benjamins Publishing Company.

- Bucholtz, Mary. 2003. Sociolinguistic nostalgia and the authentication of identity. *Journal of Sociolinguistics* 7(3). 398-416.
- Cena, Resty. 1979. Double representations for some loan words in Tagalog. *Studies in Philippine Linguistics* 3(1). 125-37.
- Chládková, K., Escudero, P., & Boersma, P. 2011. Context-specific acoustic differences between Peruvian and Iberian Spanish vowels. *Journal of the Acoustical Society of America* 130(1). 416-428.
- Clopper, Cynthia G. 2011. Checking for reliability. In Marianna Di Paolo & Malcah Yaeger-Dror (eds.), *Sociophonetics: A student's guide*, 188-197. London: Routledge.
- Clopper, Cynthia G. & Janet Pierrehumbert. 2008. Effects of semantic predictability and regional dialect on vowel space reduction. *Journal of the Acoustical Society of America* 124(3). 1682-1688.
- Clynes, Adrian. 1997. On the Proto-Austronesian “diphthongs.” *Oceanic Linguistics* 36. 347-362.
- Clynes, Adrian. 1999. Occam and the Proto-Austronesian ‘diphthongs’. *Oceanic Linguistics* 38(2). 404-408.
- Cordero-Fernando, Gilda. 1992. *Philippine food and life*. Manila: Anvil.
- Crosswhite, Katherine. 2001. *Vowel reduction in optimality theory*. New York: Routledge.
- De la Costa, Horacio. 1961. *The Jesuits in the Philippines, 1581-1768*. Cambridge: Harvard University Press.
- Delforge, Ann Marie. Unstressed vowel reduction in Andean Spanish. In Laura Colantoni & Jeffrey Steele (eds.), *Selected proceedings of the 3rd Conference on Laboratory Approaches to Spanish Phonology*, 107-124. 2008. Somerville, MA: Cascadilla Press.
- Dilley, Laura, Stefanie Shattuck-Hufnagel, & Mari Ostendorf. 1996. Glottalization of word-initial vowels as a function of prosodic structure. *Journal of Phonetics* 24(4). 423-444.
- Doeppers, Daniel F. 1972. The development of Philippine cities before 1900. *The Journal of Asian Studies* 31(4). 769-792.
- Doeppers, Daniel F. 1994. Tracing the decline of the mestizo categories in Philippine life in the late 19th century. *Philippine Quarterly of Culture and Society* 22:2. 80-89.

- Drager, Katie & James Grama. To appear. De tawk da kain ova dea: Mapping language ideologies on O'ahu. *Dialectologia 12*. Preprint.
<http://www.katiedrager.com/publications.html> (27 May 2013).
- Escalante, Enrique R. 2005. *Chabacano... for everyone: A guide to the Chabacano language*. Manila: Baby Dragon Printing Press.
- Escalante, Enrique R. 2011. *Learning Chabacano: A handbook*. Manila: Baby Dragon Printing Press.
- Escalante, Enrique R. 2012. *Let's talk Chabacano – a conversation guide to real-life situations*. Manila: Baby Dragon Printing Press.
- Escoto, Salvador P. & John N. Schumacher. 1976. Filipino priests of the Archdiocese of Manila, 1782. *Philippine Studies: Historical and Ethnographic Viewpoints* 24(3). 326-343.
- Escudero, Paola, Paul Boersma, Andréia Schurt Rauber, & Ricardo A. H. Bion. 2009. A cross-dialect acoustic description of vowels: Brazilian and European Portuguese. *The Journal of the Acoustical Society of America* 126. 1379.
- Fernández, Mauro A. 2004. Plurifuncionalidad de la partícula *na* en el chabacano de Zamboanga. In Mauro Fernández, Manuel Fernández-Ferreira & Nancy Vázquez Veiga (eds.), *Los criollos de base ibérica. ACBLPE 2003*, 41-59. Frankfurt/Madrid: Vervuert/Iberoamericana.
- Fernández, Mauro A. 2006. Las lenguas de Zamboanga según los padres jesuitas y otros observadores occidentales. *Revista Internacional de Lingüística Iberoamericana* IV:1(7). 9-26.
- Fernández, Mauro A. 2007. Sobre el origen de *con* en chabacano. In Martina Schrader-Kniffki & Laura Morgenthaer García (eds.), *La Romania en interacción: Entre historia, contacto y política. Ensayos en homenaje a Klaus Zimmermann*, 457-478. Frankfurt/Madrid: Vervuert/Iberoamericana.
- Fernández, Mauro A. 2008. Las interrogativas indirectas en chabacano: Un caso de acción del sustrato. In Hans-Jörg Döhla, Raquel Montero-Muñoz, Francisco Báez de Aguilar González, & Georg Bossong (eds.), *Lenguas en diálogo. El iberorromance y su diversidad lingüística y literaria. Ensayos en homenaje a Georg Bossong*, 143-160. Frankfurt/Madrid: Vervuert/Iberoamericana.
- Fernández, Mauro A. 2009. La partícula *con* y la organización de la transitividad en chabacano. In Montserrat Veyrat Rigat & Enrique Serra Alegre (eds.), *La lingüística como reto epistemológico y como acción social. Estudios dedicados al*

profesor Ángel López García con ocasión de su sexagésimo aniversario. Volumen I, 423-436. Madrid: Arco/Libros.

- Fernández, Mauro. 2010. Las cartas de Pardo de Tavera a Schuchardt sobre el “español de cocina” de las Islas Filipinas. In Bernard Hurch & Elisabeth Steiner (eds.), *Bausteine zur Rekonstruktion eines Netzwerkes II: Charles Baissac, Ferdinand Blumentritt und Pardo de Tavera*. Graz: Institut für Sprachwissenschaft. [Grazer Linguistische Studien 74], 239-272.
- Fernández, Mauro. 2011. Chabacano en Tayabas: Implicaciones para la historia de los criollos hispano-filipinos. *Revista Internacional de Lingüística Iberoamericana (España)* 9(1). 189-218.
- Fernández, Mauro. 2012. El chabacano de Cotabato: El documento que Schuchardt no pudo utilizar. In T. Jiménez Juliá, Belén López Meirama, V. Vázquez, & Alexandre Veiga (eds.), *Cum corde et in nova grammatica. Estudios ofrecidos a Guillermo Rojo*, 295-313. Santiago de Compostela: Universidade de Santiago de Compostela.
- Fourakis, Marios. 1991. Tempo, stress, and vowel reduction in American English. *Journal of the Acoustical Society of America* 90:4. 1816-1827.
- Flege, J. 1991. Perception and production: The relevance of phonetic input to L2 phonological learning. In C. Ferguson & T. Huebner (eds.), *Crosscurrents in Second Language Acquisition and Linguistic Theories*, 249-289. Philadelphia: John Benjamins.
- Flege, J. 1995. Second language speech learning: Theory, findings, and problems. In Winifred Strange (ed.), *Speech perception and linguistic experience: Issues in cross-language research*, 233-277. Timonium, MD: York Press.
- Flege, J. 2003. Assessing constraints on second-language segmental production and perception. In A. Meyer & N. Schiller (eds.), *Phonetics and phonology in language comprehension and production, differences and similarities*, 319-355. Berlin: Mouton de Gruyter.
- Flege, J. 2007. Language contact in bilingualism: Phonetic system interactions. In J. Cole & J. Hualde (eds.), *Laboratory Phonology 9*, 353-380. Berlin: Mouton de Gruyter.
- Forman, Michael Lawrence. 1972. *Zamboanguëno texts with grammatical analysis: A study of Philippine Creole Spanish*. Ithaca, NY: Cornell University dissertation.

- Fortuno-Genuino, Cecilia. 2011. Is Chabacano dying? In Ambeth R. Ocampo (ed.), *Selected papers from Philippine-Spanish Friendship Day conferences, 2009*, 1-25. Manila: National Historical Commission of the Philippines.
- Fougeron, Cécile & Patricia A. Keating. 1997. Articulatory strengthening at edges of prosodic domains. *The Journal of the Acoustical Society of America* 101. 3728-3740.
- Frake, Charles. 1971. Lexical origins and semantic structure in Philippine Creole Spanish. In Dell Hymes (ed.), *Pidginization and creolization of languages*, 223-242. Cambridge: Cambridge University Press.
- Francisco de San José. 1610. *Arte y reglas de la lengua tagala*. En el Partido de Bataan: Thomas Pinpin Tagalo.
- Francisco de San José, & Antonio Quilis. 1997. *Arte y reglas de la lengua tagala*. Estudio y Edición de Antonio Quilis. Madrid: Cultura Hispánica.
- Gal, Susan & Judith T. Irvine. 1995. The boundaries of languages and disciplines: How ideologies construct difference. *Social research* 62(4). 967-1001.
- Gealogo, Francis A. 2010. Population history of Cavite during the nineteenth century. *The Journal of History* 51(1). 308-339.
- German, Alfredo B. 1932. *The Spanish dialect of Cavite*. University of the Philippines MA thesis.
- Gonzalez, Andrew. 1970. Acoustic correlates of accent, rhythm, and intonation in Tagalog. *Phonetica* 22. 11-44.
- Gonzalez, Andrew. 1998. The language planning situation in the Philippines. *Journal of Multilingual and Multicultural Development* 19(5). 487-525.
- Good, Jeff. 2006. The phonetics of tone in Saramaccan. In Ana Deumert & Stephanie Durrleman (eds.), *Structure and variation in language contact*, 9-28. Amsterdam: John Benjamins Publishing Company.
- Gooden, Shelome. 2003. *The phonology and phonetics of Jamaican Creole reduplication*. Columbus, OH: The Ohio State University dissertation.
- Gooden, Shelome. 2007. Intonational phonology of Jamaican Creole: An Autosegmental Metrical analysis. ICPhS XVI.
- Gooden, Shelome, Kathy-Ann Drayton, & Mary Beckman. 2009. Tone inventories and tune-text alignments: Prosodic variation in “hybrid” prosodic systems. *Studies in Language* 33(2). 396-416.

- Grant, Anthony P. 2002. El chabacano zamboangueno, una lengua mezclada. *Papia* 12. 7-40.
- Grant, Anthony P. 2007. Some aspects of NPs in Mindanao Chabacano. Structural and historical considerations. In Marlyse Baptista & Jacqueline Guéron (eds.), *Noun phrases in creole languages. A multifaceted approach*, 174-204. Amsterdam: John Benjamins Publishing Company.
- Grant, Anthony P. 2009. Contact, complexification and change in Mindanao Chabacano structure. In Enoch O. Aboh & Norval Smith (eds.), *Complex processes in new languages*, 223-242. Amsterdam: John Benjamins Publishing Company.
- Grant, Anthony P. 2011. Substrate influences in Mindanao Chabacano. In Claire Lefebvre (ed.), *Creoles, their substrates and language typology* 303-324. Amsterdam/Philadelphia: John Benjamins Publishing Company.
- Goulet, Rosalina Morales. 1971. English, Spanish and Tagalog: A study of grammatical, lexical, and cultural interference. *Philippine Journal of Linguistics*, special monograph issue no. 1. Manila: Linguistic Society of the Philippines.
- Guion, Susan G. 2003. The vowel systems of Quichua-Spanish bilinguals. *Phonetica* 60. 98-128.
- Guirao, M. & MA García Jurado. 1990. Frequency of occurrence of phonemes in American Spanish. *Revue Quebecoise de Linguistique* 19(2). 135-150.
- Hansen Edwards, Jette G. 2008. Social factors and variation in production in L2 phonology. In Jette G. Hansen Edward & Mary L. Zampini (eds.), *Phonology and second language acquisition*, 251–282. Amsterdam: John Benjamins Publishing Company.
- Harrington, J., S. Palethorpe, & C.I. Watson. 2007. Age-related changes in fundamental frequency and formants: a longitudinal study of four speakers. *INTERSPEECH*. 2753-2756.
<http://www.phonetik.uni-muenchen.de/~jmh/papers/interspeechage07.pdf>
 (11/4/2013)
- Hayes, Bruce, Robert Kirchner & Donca Steriade. 2004. *Phonetically based phonology*. Cambridge: Cambridge University Press.
- Hualde, José Ignacio. 2004. Quasi-phonemic contrasts in Spanish. In Benjamin Schmeiser, Vineeta Chand, Ann Kelleher, & Angelo Rodriguez (eds.), *WCCFL 23 Proceedings*, 374-398. Somerville, MA: Cascadilla Press.

- Hualde, José Ignacio. 2005. *The sounds of Spanish*. Cambridge: Cambridge University Press.
- Ing, Roseller. 1967. A brief outline of Chabacano phonology. *Le Maître Phonétique* 128. 26-33.
- Ing, Roseller. 1968. *A phonological analysis of Chabacano*. London: University of London Ph.D. thesis.
- Ing, Roseller. 1976. Sources and variants of Chabacano consonants. *Studies in English Literature & Linguistics* 1. 17-22.
- Irvine, Alison. 2004. A good command of the English language: Phonological variation in the Jamaican acrolect. *Journal of Pidgin and Creole Languages* 19(1). 41-76.
- Irvine, Alison. 2008. Contrast and convergence in Standard Jamaican English: The phonological architecture of the standard in an ideologically bidialectal community. *World Englishes* 27(1). 9-25.
- Iskrova, Iskra. 2007. *Prosody and Intonation in Two French-Based Creoles: Haitian and Guadeloupean*. Bloomington: Indiana University dissertation.
- Johnson, Daniel Ezra. 2009. Getting off the GoldVarb standard: Introducing Rbrul for mixed-effects variable rule analysis. *Language and linguistics compass* 3(1). 359-383.
- Jun, Sun-Ah. 2005. *Prosodic typology: The phonology of intonation and phrasing*. Oxford: Oxford University Press.
- Keating, Patricia A., Taehong Cho, Cécile Fougeron, & Chai-Shune Hsu. 2003. Domain-initial articulatory strengthening in four languages. In John Local, Richard Ogden, Rosalind Temple, Mary E. Beckman, & John Kingston (eds.), *Papers in laboratory phonology VI*, 145-163. Cambridge: Cambridge University Press.
- Klein, Thomas B. 2006a. Creole phonology typology: Phoneme inventory size, vowel quality distinctions and stop consonant series. In Parth Bhatt & Ingo Plag (eds.), *The structure of creole words. Segmental, syllabic and morphological aspects*, 3-21. Tübingen: Niemeyer.
- Klein, Thomas B. 2006b. Segmental typology of African creole languages: Examining uniformity, simplification and simplicity. In Olaoba F. Arasanyin & Michael A. Pemberton (eds.), *Selected Proceedings of the 36th Annual Conference on African Linguistics: Shifting the Center of Africanism in Language Politics and Economic Globalization*, 42-50. Somerville, MA: Cascadilla Proceedings Project.

- Klein, Thomas B. 2011. Typology of creole phonology: Phoneme inventories and syllable templates. *Journal of Pidgin and Creole Languages* 26(1). 155-193.
- Klöter, Henning. 2011. *The language of the Sangleys: A Chinese vernacular in missionary sources of the seventeenth century*. Leiden: Brill.
- Lacoste, Veronique & Christian Mair. 2012. Authenticity in creole-speaking contexts: An Introduction. *Zeitschrift für Anglistik und Amerikanistik*. 60(3). 211-215.
- Lefebvre, Claire. 1998. *Creole genesis and the acquisition of grammar: The case of Haitian Creole*. Cambridge: Cambridge University Press.
- Lesho, Marivic & Eeva Sippola. 2013. The sociolinguistic situation of the Manila Bay Chabacano-speaking communities. *Language Documentation & Conservation* 7. 1-30.
- Lewis, M. Paul (ed.). 2009. *Ethnologue: Languages of the world*, 16th edition. Dallas, TX: SIL International. Online edition: <http://www.ethnologue.com/>. (11/5/2013)
- Liljencrants, Johan & Björn Lindblom. 1972. Numerical simulation of vowel quality systems: The role of perceptual contrast. *Language* 48(4). 839-862.
- Lindblom, Björn. 1986. Phonetic universals in vowel systems. In John J. Ohala & Jeri J. Jaeger (eds.), *Experimental phonology*, 13-44. Orlando: Academic Press.
- Lindblom, B. 1990. Explaining phonetic variation: A sketch of the H&H theory. In Marchal Hardcastle (ed.), *Speech production and speech modeling*, 403-439. Kluwer, Dordrecht.
- Lipski, John, Peter Mühlhausler & F. Duthin. 1996. Spanish in the Pacific. In Stephen A. Wurm, Peter Mühlhäusler & Darrell T. Tryon (eds.), *Atlas of Languages of Intercultural Communication in the Pacific, Asia, and the Americas*, 271-298. Berlin: Mouton de Gruyter.
- Lipski, John. 1986. The reduction of /s/ in Philippine Creole Spanish and its implications for historical Hispanic dialectology. *Diachronica* 3. 43-66.
- Lipski, John. 1987. El español en Filipinas: Comentarios sobre un lenguaje vestigial. *Anuario de lingüística hispánica* 3. 123-142.
- Lipski, John. 1988. Philippine Creole Spanish: Assessing the Portuguese element. *Zeitschrift für Romanische Philologie*. 104(1-2). 25-45.
- Lipski, John M. 1990. Aspects of Ecuadorian vowel reduction. *Hispanic Linguistics* 4(1). 1-19.

- Lipski, John M. 1992. New thoughts on the origins of Zamboangueno (Philippine Creole Spanish). *Language Sciences* 14(3). 197-231.
- Lipski, John M. 2000. Epenthesis vs. elision in Afro-Iberian language: a constraint-based approach to creole phonology. *PAPIA: Revista Brasileira de Estudos Crioulos e Similares* 10. 23-39.
- Lipski, John. 2001. The place of Chabacano in the Philippine linguistic profile. *Estudios de Sociolingüística* 2(2). 119-163.
- Lipski, John. 2013. Remixing a mixed language: The emergence of a new pronominal system in Chabacano (Philippine Creole Spanish). *International Journal of Bilingualism* 17(4). 448-478.
- Llamado, Librada. 1969. *An analysis of the basic structures of Cavite Chavacano*. Manila: Philippine Normal College master's thesis.
- Llamado, Librada C. 1972. The phrase-structure rules of Cavite Chavacano. *Philippine Journal of Linguistics* 3. 67-95.
- Le Page, Robert B. & Andrée Tabouret-Keller. 1985. *Acts of identity: Creole-based approaches to language and ethnicity*. Cambridge: Cambridge University Press.
- Long, Daniel & Dennis Preston. 2002. *Handbook of perceptual dialectology. Vol. 2*. Handbook of Perceptual Dialectology. Amsterdam: John Benjamins.
- Lope Blanch, Juan. 1963. Sobre las vocales caedizas del español mexicano. *Nueva Revista de Filología Hispánica* 17. 1-20.
- Lorenzino, Gerardo. 2000. *The morphosyntax of Spanish-lexified Creoles*. München: LINCOM.
- Maddieson, Ian. 1984. *Patterns of sounds*. Cambridge: Cambridge University Press.
- Major, Roy C. 2002. The phonology of the L2 user. In Vivian Cook (ed.), *Portraits of the L2 user*, 67-92. Clevedon: Multilingual Matters Ltd.
- Major, Roy C. 2008. Transfer in second language phonology. In Jette G. Hansen Edward & Mary L. Zampini (eds.), *Phonology and second language acquisition*, 63-94. Amsterdam: John Benjamins Publishing Company.
- Manuel, E. Arsenio. 1971. *A lexicographic study of Tayabas Tagalog of Quezon Province*. Quezon City: Diliman Review.
- Marquez, Ely J. 1975. *A phonology of Tagalog*. Madison: University of Wisconsin-Madison dissertation.

- Martínez-Celdrán, Eugenio, Ana Ma. Fernández-Planas, & Josefina Carrera-Sabaté. 2003. Castilian Spanish. *Journal of the International Phonetic Association* 33(2). 255-259.
- McCarthy, William J. 1995. The yards at Cavite: Shipbuilding in the early colonial Philippines. *International Journal of Maritime History* 7. 149-162.
- McFarland, Curtis. 2000. Filipino phonology. In Maria Lourdes S. Bautista, Teodoro A. Llamzon, Bonifacio P. Sibayan, & Andrew B. Gonzalez (eds.), *Parangal kang Brother Andrew: Festschrift for Andrew Gonzalez on his sixtieth birthday*. Manila: Linguistic Society of the Philippines.
- McKaughan, Howard P. 1954. Notes on Chabacano Grammar. *University of Manila Journal of East Asiatic Studies* III(2). 205-226.
- McWhorter, John. 2005. *Defining creole*. Oxford: Oxford University Press.
- Medina, Isagani R. & Mirana R. Medina. 2001. *Ang Kabite sa gunita: Essays on Cavite and the Philippine revolution*. Diliman, Quezon City: University of the Philippines Press.
- Michaelis, Susanne, Philippe Maurer, Martin Haspelmath & Magnus Huber (eds.). 2013. *The atlas of pidgin and creole language structures*. Oxford: Oxford University Press.
- Miranda, Gervasio. 1956. *El dialecto chabacano de Cavite*. Dumaguete City: n.p.
- Molony, Carol. 1973. Sound changes in Chabacano. In Andrew Gonzalez (ed.), *Parangal kay Cecilio Lopez*, 38–50. Quezon City: Linguistic Society of the Philippines.
- Molony, Carol Hodson. 1974. *Recent relexification processes in Philippine Creole Spanish*.
- Molony, Carol. 1977. Semantic changes in Chabacano. In Jürgen Meisel (ed.), *Langues en contact: Pidgins, Creoles – Languages in Contact*, 153–166. Tübingen: Günter Narr.
- Morrison, Geoffrey & Paola Escudero. 2007. A cross-dialect comparison of Peninsula- and Peruvian-Spanish vowels. *Proceedings of the 16th International Congress of Phonetic Sciences: Saarbrücken 2007* (Universität des Saarlandes Saarbrücken, Germany).1505-1508.
- Mühleisen, Susanne. 2002. *Creole discourse: Exploring prestige formation and change across Caribbean English lexicon creoles*. Amsterdam: John Benjamins Publishing Company.

- Mühlhäusler, Peter. 1983. Learning to speak about speaking in a pidgin language. In S.A. Wurm, *Papers in pidgin and creole linguistics no. 3 (Pacific Linguistics Series A – No. 65)*, 93-103. Canberra: Australian National University.
- Muysken, Pieter. 1994. The first seven years, fat or lean? *Journal of Pidgin and Creole Languages* 9(1). 103-107.
- Niedzielski, Nancy. 1999. The effect of social information on the perception of sociolinguistic variables. *Journal of language and social psychology* 18(1). 62-85.
- Nearey, Terrance M. 1977. Phonetic feature systems for vowels. Edmonton: University of Alberta dissertation.
- Nigoza, Evangelino. 2007. *Bahra: The history, legends, customs, and traditions of Ternate, Cavite*. Dasmariñas, Cavite: Cavite Historical Society.
- Ocampo, Esteban A. de 2007. *The Ternateños: Their history, languages, customs and traditions*. Manila: National Historical Institute.
- O'Rourke, Erin. 2010. Dialect differences and the bilingual vowel space in Peruvian Spanish. In Marta Ortega-Llebaria (ed.), *Selected Proceedings of the 4th Conference on Laboratory Approaches to Spanish Phonology*, 20-30. Somerville, MA: Cascadilla Press.
- Ortega-Llebaria, Marta & Pilar Prieto. 2011. Acoustic correlates of stress in Central Catalan and Castilian Spanish. *Language and speech* 54:1. 73-97.
- Pangilinan y Enriquez, Gervasio. 2001. *The historic Cavite*. Cavite: Cavite Historical Society.
- Parodi, Claudia & Otto Santa Ana. 1997. Tipología de comunidades de habla: Del español rural al estándar. *Nueva revista de filología hispánica* 45(2). 305-320.
- Penny, Ralph. 2000. *Variation and change in Spanish*. Cambridge: Cambridge University Press.
- Peterson, Gordon E., & Ilse Lehiste. 1960. Duration of syllable nuclei in English. *The Journal of the Acoustical Society of America* 32. 693-703.
- Phelan, John L. 1959. *The Hispanization of the Philippines: Spanish aims and Filipino responses, 1565-1700*. Madison: University of Wisconsin Press.
- Pierrehumbert, Janet & David Talkin. 1992. Lenition of /h/ and glottal stop. In Gerard J. Docherty & D. Robert Ladd *Papers in laboratory phonology II: Gesture, segment, prosody*. 90-117. Cambridge: Cambridge University Press.

- Plag, Ingo. 2009. Creoles as interlanguages: Phonology. *Journal of Pidgin and Creole Languages* 24(1). 121-140.
- Plag, Ingo & Mareile Schramm. 2006. Early Creole syllable structure: A cross-linguistic survey of the earliest attested varieties of Saramaccan, Sranan, St. Kitts, and Jamaican. In Parth Bhatt & Ingo Plag (eds.), *The structure of creole words: Segmental, syllabic and morphological aspects*, 131-149. Tübingen: Niemeyer.
- Preston, Dennis R. (ed.). 1999. *Handbook of perceptual dialectology. Volume 1 Volume 1*. Amsterdam: John Benjamins.
- Preston, Dennis R. 2002. Perceptual dialectology: Aims, methods, findings. *Trends in Linguistics Studies and Monographs* 137. 57-104.
- Prieto, Pilar & Paolo Roseano. 2010. *Transcription of intonation of the Spanish language*. Muenchen: LINCOM.
- Quilis, Antonio & Celia Casado-Fresnillo. 2008. *La lengua española en Filipinas: Historia, situación actual, el chabacano, antología de textos*. Madrid: Consejo Superior de Investigaciones Científicas.
- Quilis, Antonio & Manuel Esgueva. 1983. Realización de los fonemas vocálicos españoles en posición fonética normal. *Estudios de fonética* 1. 159-252.
- Rafael, Vicente. 1978. From Mardicas to Filipinos: Ternate, Cavite, in Philippine history. *Philippine Studies* 26(4). 343-362.
- Ramos, Felicidad G. 1963. *A contrastive analysis of the sound system of the Cavite Chavacano and the English languages*. Manila: Abad Santos Educational Institution master's thesis.
- Ramsey, S. R. 1989. *The languages of China*. Princeton, N.J: Princeton University Press.
- Remijsen, Bert & Vincent J. van Heuven. 2005. Stress, tone, and discourse prominence in the Curacao dialect of Papiamentu. *Phonology* 22. 205-235.
- Rickford, John R. 1985. Standard and non-standard language attitudes in a creole continuum. In Nessa Wolfson & Joan Manes (eds.), *Language of inequality*, 145-160. Berlin: Mouton Publishers.
- Rickford, John. 1993. Phonological features in Afro-American pidgins and creoles and their diachronic significance: Comments on the papers by Holm and Carter. In Salikoko Mufwene (ed.), *Africanisms in Afro-American Language Varieties*, 346-363. Amsterdam: John Benjamins Publishing Company.

- Rivera-Castillo, Yolanda. 2008. Subsystem interface and tone typology in Papiamentu. *Studies in Language* 33(2). 437-458.
- Rivera-Castillo, Yolanda & Lucy Pickering. 2004. Phonetic correlates of stress and tone in a mixed system. *Journal of Pidgin and Creole Languages* 19. 261-284.
- Reid, Lawrence A. 1973. Diachronic typology of Philippine vowel systems. In Thomas A. Sebeok (ed.), *Current Trends in Linguistics 11: Diachronic, areal, and typological linguistics*, 485-506. The Hague and Paris: Mouton and Co.
- Riego de Dios, Maria Isabelita. 1976. The Cotabato Chabacano (Ct) Verb. *Philippine Journal of Linguistics* 7. 48-59.
- Riego de Dios, Maria Isabelita O. 1989 (1979). A composite dictionary of Philippine Creole Spanish (PCS). *Studies in Philippine Linguistics* 7(2). 1-210.
- Roberts, Sarah J. 2004. The role of style and identity in the development of Hawaiian Creole. In Geneviève Escure & Armin Schwegler (eds.), *Creoles, contact, and language change: Linguistics and social implications*, 331-350. Amsterdam: John Benjamins Publishing Company.
- Romaine, Susanne. 1988. *Pidgin and creole languages*. London: Longman.
- Romanillos, Emmanuel Luis A. 2005. A Hispanic legacy of Chabacano poems. *The Journal of History* 51. 179-218.
- Romanillos, Emmanuel Luis A. 2006. *Chabacano studies: Essays on Cavite's language and literature*. Dasmariñas, Cavite, Philippines: Cavite Historical Society.
- Rubino, Carl. 2008. Zamboanga Chavacano and the potentive mode. In Susanne Michaelis (ed.), *Roots of Creole structures: Weighing the contribution of substrates and superstrates*, 279-300. Amsterdam: John Benjamins Publishing Company.
- Rubino, Carl 2012. *Bilug* in Zamboangueno Chavacano. In Hugo C. Cardoso, Alan N. Baxter, & Mário Pinharanda Nunes (eds.), *Ibero-Asian Creoles: Comparative Perspectives*, 239-262. Amsterdam: John Benjamins Publishing Company.
- Russell Webb, Eric. 2008. Formalizing creole sound change: An Optimality Theoretic account. *Journal of Pidgin and Creole Languages* 23(2). 227-263.
- Russell Webb, Eric. 2010. Creole phonological restructuring: The role of perception in contact-induced change. *Journal of Pidgin and Creole Languages* 25(2). 263-288.
- Russell Webb, Eric. 2011. Accounting for R: Shifting segments and constraint-based grammar. *Language Sciences* 33(1). 90-106.

- Russell Webb, Eric. 2013. Creolistics and formal grammar: A dialogue of challenges and opportunities. Paper presented at the Society For Pidgin and Creole Linguistics, Boston, MA, January 4.
- Sabino, Robin. 1990. Towards a phonology of Negerhollands: An analysis of phonological variation. Philadelphia: University of Pennsylvania dissertation.
- Santos y Gómez, A. 1924. The Caviteño dialect. Tagalog Paper No. 448 in the Beyer Collection, Manila, National Library of the Philippines.
- Sayas, Magdalena. 1999. *Chavacanong Caviteño: Isang komparatibong linggwistika*. Manila: De La Salle University PhD thesis.
- Schachter, Paul & Fe T. Otnes. 1972. *Tagalog reference grammar*. Berkeley: University of California Press.
- Schuchardt, Hugo. 1883. Kreolisch Studien IV. Ueber das Malaiospanische der Philippinen. *Sitzungsberichte der kaiserlichen Akademie der Wissenschaften zu Wien* 105:1, 111-150.
- Schumann, John H. 1976. Social distance as a factor in second language acquisition. *Language Learning* 26(1). 135-143.
- Schwartz, Jean-Luc, Louis-Jean Boë, Nathalie Vallée, & Christian Abry. 1997. The Dispersion-Focalization Theory of vowel systems. *Journal of Phonetics* 25(3). 255-286.
- Scott, William Henry. 1994/2010. *Barangay: Sixteenth century Philippine culture and society*. Quezon City: Ateneo de Manila University Press.
- Sheldon, A & W. Strange. 1982. The acquisition of /r/ and /l/ by Japanese learners of English: Evidence that speech production can precede speech perception. *Appl. Psycholing* 3. 243-261.
- Siegel, Jeff. 1997. Mixing, leveling, and pidgin/creole development. In Arthur K. Spears & Donald Winford (eds.), *The structure and status of pidgins and creoles*, 111-149. Amsterdam: John Benjamins Publishing Company.
- Siegel, Jeff. 2003. Substrate influence in creoles and the role of transfer in second language acquisition. *Studies in Second Language Acquisition* 25(2). 185-209.
- Siegel, Jeff. 2006. Links between SLA and creole studies: Past and present. In Claire Lefebvre, Lydia White, & Christine Jourdan (eds.), *L2 acquisition and creole genesis*, 15-48. Amsterdam: John Benjamins Publishing Company.

- Singh, Rajendra & Pieter Muysken. 1995. Wanted: A debate in pidgin-creole phonology. *Journal of Pidgin and Creole Languages* 10:1. 157-169.
- Sippola, Eeva. 2006. Hacia una descripción del ternateño. *Revista Internacional de Lingüística Iberoamericana* IV:1(7). 41-54.
- Sippola, Eeva. 2010a. Sobre los marcadores discursivos en el chabacano de Ternate. In Maria Iliescu, Heidi Siller-Runggaldier, & Paul Danler (eds.), *Actes du XXVe Congrès International de Linguistique et de Philologie Romanes, Innsbruck, 3-8 septembre 2007*, 431-440. Tome I. Berlin: Mouton de Gruyter.
- Sippola, Eeva. 2010b. Chabacano for everyone? Chabacano language projects in Cavite City in comparison with other Chabacano communities. In Bettina Migge, Isabelle Léglise & Angela Bartens (eds.), *Creoles in education*, 55-80. Amsterdam: John Benjamins.
- Sippola, Eeva. 2011a. Negation in Ternae Chabacano. In Claire Lefebvre (ed.), *Creoles, their substrates and language typology* (Typological Studies in Language 95), 325-336. Amsterdam & Philadelphia: John Benjamins.
- Sippola, Eeva. 2011b. *Una gramática descriptiva del chabacano de Ternate*. University of Helsinki PhD thesis.
- Sippola, Eeva & Marivic Lesho. 2013. Folk perceptions of variation among the Chabacano varieties. Paper presented at the annual meeting of the Associação de Crioulos de Base Lexical Portuguesa e Espanhola, Lisbon, Portugal, June 19-21, 2013.
- Smith, Norval S.H. 2008. Creole phonology. In Silvia Kouwenberg & John Victor Singler (eds.), *The handbook of pidgin and creole studies*, 98-129. Chichester, West Sussex: Wiley-Blackwell.
- Smith, Norval & Marleen van de Vate. 2006. Population movements, colonial control and vowel systems. In Parth Bhatt & Ingo Plag (eds.), *The structure of creole words: Segmental, syllabic, and morphological aspects*, 59-82. Tübingen: Niemeyer.
- Soberano, Rosa. 1980. *The dialects of Marinduque Tagalog*. Pacific Linguistics, No. 69. Canberra: Dept. of Linguistics, Research School of Pacific Studies, Australian National University.
- Steinkrüger, Patrick O. 2003. Morphological processes of word formation in Chabacano (Philippine Spanish Creole). In Ingo Plag (ed.), *Phonology and morphology of creole languages*, 253-268. Tübingen: Niemeyer.

- Steinkrüger, Patrick O. 2007. Notes on Ternateño (A Philippine Spanish Creole). *Journal of Pidgin and Creole Languages* 22(2). 367-377.
- Steinkrüger, Patrick O. 2008. Hispanisation processes in the Philippines. In Thomas Stolz, Dik Bakker & Rosa S. Palomo (eds.), *Hispanisation: The impact of Spanish on the lexicon and grammar of the indigenous languages of Austronesia and the Americas*. Berlin: Mouton de Gruyter.
- Steinkrüger, Patrick O. 2009. Inflectional morphology in a creole: A report on Chabacano (Philippine Spanish Creole). In Patrick O. Steinkrüger & Manfred Krifka (eds.), *On inflection*, 219-236. Berlin: Mouton de Gruyter.
- Thomason, Sarah G. 2003. The journal ten years later. *Journal of Pidgin and Creole Languages* 18(2). 267-272.
- Thompson, Roger M. 2003. *Filipino English and Taglish: Language switching from multiple perspectives*. Amsterdam: John Benjamins Publishing Company.
- Tirona, Tomás T. 1924. An account of the Ternate dialect (of Cavite P.I.). Tagalog Paper 487 of the Beyer Collection, Manila, Philippine National Library.
- Turk, Alice, Satsuki Nakai & Mariko Sugahara. 2006. Acoustic segment durations in prosodic research: A practical guide. In Stefan Sudhoff, Denisa Lenertova, Roland Meyer, Sandra Pappert, Petra Augurzky, Ina Mleinek, Nicole Richter & Johannes Schließer (eds.), *Methods in empirical prosody research*, 1-27. Berlin: Walter de Gruyter.
- Uffmann, Christian. 2003. Markedness, faithfulness, and creolization: The retention of the unmarked. In Ingo Plag, (ed.), *The phonology and morphology of Creole languages*, 3-23. Tübingen: Niemeyer.
- Uffmann, Christian. 2009. Creole consonant inventories: How simple? In Nicholas Faraclas & Thomas B. Klein (eds.), *Simplicity and complexity in creoles and pidgins*, 781-106. London: Battlebridge.
- UNESCO. 2003. *Language vitality and endangerment*. Approved 31 March 2003 by the Participants of the at International Expert Meeting on UNESCO Programme Safeguarding of Endangered Languages. Paris-Fontenoy: UNESCO.
- Velupillai, Viveka. 2003. *Hawai'i Creole English: A typological analysis of the tense-mood-aspect system*. Houndmills, Basingstoke, Hampshire: Palgrave Macmillan.
- Warren, J. 1981. *The Sulu Zone (1768-1898)*. Singapore: Singapore University Press.
- Wassink, Alicia Beckford. 1999a. *A sociophonetic analysis of Jamaican vowels*. Ann Arbor: University of Michigan dissertation.

- Wassink, Alicia Beckford. 1999b. Historic low prestige and seeds of change: Attitudes toward Jamaican Creole. *Language in Society* 28(1). 57-92.
- Wassink, Alicia Beckford. 2001. Theme and variation in Jamaican vowels. *Language Variation and Change* 13(2). 135-159.
- Wassink, Alicia Beckford. 2006. A geometric representation of spectral and temporal vowel features: Quantification of vowel overlap in three linguistic varieties. *Journal of the Acoustical Society of America* 119. 2334-2350.
- Whinnom, Keith. 1956. *Spanish contact vernaculars in the Philippine Islands*. Hong Kong: Hong Kong University Press.
- Willis, Erik W. 2005. An initial estimation of Southwest Spanish vowels. *Southwest Journal of Linguistics* 24(112).185-198.
- Willis, Erik W. 2006. Trill variation in Dominican Spanish: An acoustic examination and comparative analysis. In Nuria Sagarra & Almeida Jacqueline Toribio (eds.), *Selected Proceedings of the 9th Hispanic Linguistics Symposium*, vol. 1, 121-131. Somerville, MA: Cascadilla Proceedings Project.
- Willis, Erik W. 2007. An acoustic study of the “pre-aspirated trill” in narrative Cibaeno Dominican Spanish. *Journal of the International Phonetic Association* 37(1). 33.
- Wickberg, Edgar. 2002. *The Chinese in Philippine life 1850 - 1898*. Manila: Ateneo de Manila University Press.
- Winford, Donald. 2000. Irrealis in Sranan: Mood and modality in a radical creole. *Journal of Pidgin and Creole Languages* 15:1. 63-125.
- Winford, Donald & Bettina Migge. 2007. Substrate influence on the emergence of the TMA systems of the Surinamese creoles. *Journal of Pidgin and Creole Languages* 22:1. 73-99.
- Wright, R. 2004. Factors of lexical competition in vowel articulation. In J. Local, R. Ogden, & R. Temple (eds.), *Phonetic Interpretation: Papers in Laboratory Phonology VI*, 75-86. Cambridge: Cambridge University Press.
- Yap, Fe Z. Aldave. 1970. *The sounds of Pilipino: A descriptive analysis*. Manila: United Pub. Co.
- Zuraw, Kie. 2007. The role of phonetic knowledge in phonological patterning: corpus and survey evidence from Tagalog infixation. *Language* 83(2). 277-316.

Zuraw, Kie. 2010. A model of lexical variation and the grammar with application to Tagalog nasal substitution. *Natural Language & Linguistic Theory* 28(2). 417-472.

Appendix A: Sample Elicitation Materials

This appendix contains samples of the elicitation materials used in the carrier phrase task, the story reading and retelling task, and the sociolinguistic interviews described in Chapter 4.

A.1 Carrier phrase task

The following are examples of the Power Point slides used to elicit sentences in the carrier phrase task. Figure 37 shows how the instructions were displayed on the computer screen.

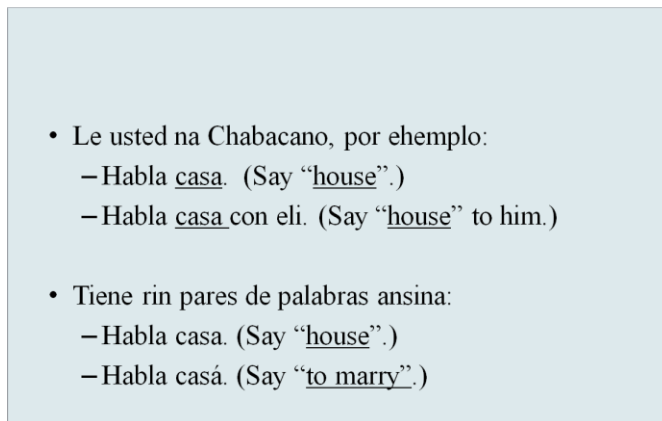


Figure 37. Instructions slide for the carrier phrase task

The instruction in the first bullet point translates to ‘Read in Chabacano, for example.’, followed by examples of the two different sentence frames used in the task. The second bullet point was used to give examples of words that look similar but have different stress and therefore different meanings. The instruction translates to ‘There are also words like this.’, followed by examples of the minimal pair *casa* ‘house’ and *casá* ‘to marry’, with an accent mark on the latter word to distinguish the pair as much as possible.

Figure 38 shows examples of how the sentences were presented on screen. The sentences were placed on different areas of the slide because I found that if the location stayed the same, the participants would expect *con eli* ‘to him’ to complete the first carrier phrase, which affected how they read the sentences. For example, if the slides below had the sentences in the same place, they would produce *Habla “masa”* ‘Say dough’ as if expecting the utterance to continue, and then only say *con eli* ‘to him’ when the second slide appeared.

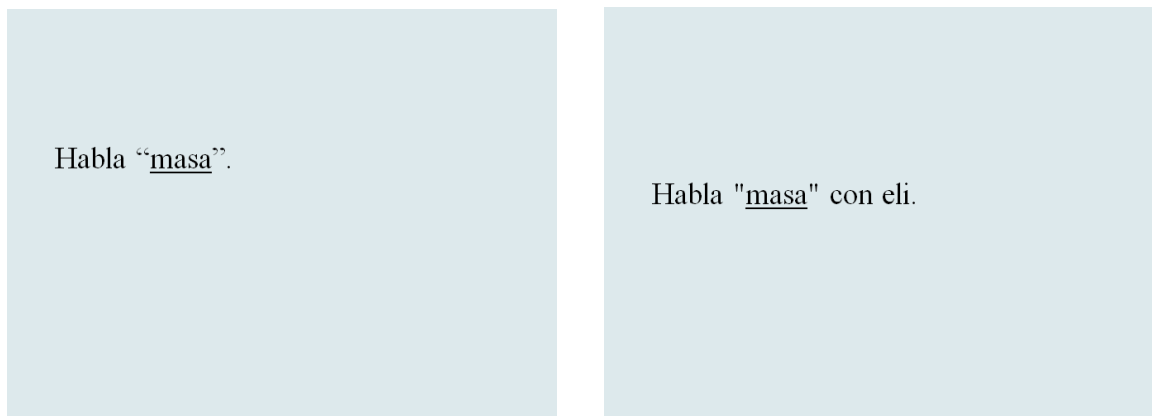


Figure 38. Example slides from the carrier phrase task

A.2 Reading and retelling task

The following is one of the passages used in the reading and retelling task, “El chonggo y el pagong” (‘The monkey and the turtle’). To make the task easier for people with weak vision, the original version given to the participants had plain, size 20 font with double spacing. The following version has italic size 12 font and an English translation. The story is a common Filipino folk tale, and this version was written for use in this study by Enrique Escalante, based on an earlier version included in German’s (1932) thesis. The English translation was written by me.

El chonggo y el pagong

‘The monkey and the turtle’

Version by Enrique Escalante (updated from German 1932)

Tiene un chonggo y un pagong ta caminá na orilla del aplaya. Ya encontrá ilos un pono de platanos con fruta marudung-marudo.

“Subi bo,” ya habló el pagong.

“Bo ya que subí,” ya respondé el chonggo.

Hablá el pagong, “bo ya.”

El que ya hacía, ya tripá na pono de platanos el chonggo.

Hablá el pagong con el chonggo, “Dale conmigo uno.”

Ya respondé el chonggo, “Masiao dulce, de mio muna.”

“Dale un pedasiting, di morde yo un chiquiting.”

“Di dale yo con bo el pellejo mas dulce que el laman.”

Ya calintá el pagong y ya andá sacá mga espinas y ya poné na pono de platanos, y despues, ya hacé ardé. Y ahora, el chonggo no sabe cosa di hacé.

Ya brincá ele. El pagong ya corré. Ya encontrá un chireta, y allá adentro del chireta ya entrá.

Tiene tambien un carabao que ta caminá na orilla'y aplaya. Este carabao ya tropezá na chireta, y el pagong ya buyá. El chonggo ya mirá y ya garrá con el pagong. Ya hablá ele con el pagong:

“Ahora, di matá yo con bo. Di machacá yo na pilon con bo.”

Ya respondé el pagong, “Sigue, no di morí yo.”

“Di butá yo con bo na río.”

“No, no!” ya hablá el pagong. “No sabe yo nadá!”

El que ya hacé el chonggo, ya butá con ele na agua.

Pero ta rí que rí el pagong. Ya hablá ele, “Yehoy! Yehoy! Aqui mi casa, aqui mi casa!”

There were a monkey and a turtle walking along the shore of the beach. They found a banana tree with very ripe fruit.

“Climb up,” said the turtle.

“You climb up,” responded the monkey.

What happened was that the monkey climbed up the tree.

The turtle said to the monkey, “Give me one.”

The monkey responded, "It's so sweet, me first."

"Give me a little piece, I'll just take a little bite."

"I'll give you the peel, it's sweeter than the flesh."

The turtle got angry and went to get some thorns and put them on the banana tree, and after, it made him really mad. And now, the monkey didn't know what to do.

He jumped. The turtle ran. He found a coconut shell, and there he went inside the coconut shell.

There was also a water buffalo who was walking along the shore of the beach. This water buffalo stepped on the coconut shell, and the turtle came out. The monkey saw him and grabbed the turtle. He said to the turtle:

"Now, I'm going to kill you. I'm going to grind you in a mortar."

The turtle responded, "Go ahead, I won't die."

"I'll throw you in the river."

"No, no!" said the turtle. "I don't know how to swim!"

What the monkey did was throw him in the water.

But the turtle laughed and laughed. He said, "Yay! Yay! This is my home, this is my home!"

A.3 Sociolinguistic interview questions

The following is the loose script that was followed for each interview. It is organized in modules with different themes. Not every module or question was used,

depending on how conversation went with the participant, and the questions listed here were not usually asked word for word. Individual participants also brought up topics that were not on the script. The script is spelled more or less phonetically, but it was never shown to the participants during the conversation.

1. Personal background

- a. Where were you born?

Donde usted ya nasi?

- b. Did you grow up in Cavite?

Ya kedá grande ba usted na Cavite?

- c. Where is your family from? Where do they live now?

De donde usted pamilja? Donde ta kedá ilo ora?

- d. Where did you finish school? When? What was your course?

Donde usted ya kabá su estudio? Kwando? Kosa el curso de usted?

- e. What was your thesis about?

Kosa el tema del tesis de usted?

- f. What is/was your occupation? What are/were your responsibilities at work?

Kosa usted trabaho (antes)? Kosa-kosa el mga responsibilidad de usted na trabaho?

- g. When will you/did you retire?

Kwando usted di/ya así retire de su trabaho? Kosa di/ya así usted despwes?

2. Language background

- a. How many languages do you speak?

Kwanto lenguahe usted ta platiká?

- b. Do you speak Spanish? How did you learn it?

Ta platiká ba usted Español? Kilaya ya prindí usted?

- c. Did you ever study Spanish in school?

Ya estudjá ba usted Español na eskwela?

- d. What languages did your family speak when you were little?

Kosa lenguahe su pamilya ta platiká kwando chikito pa usted?

- e. Do you speak Chabacano at home?

Ta platiká ba usted Chabacano na kasa?

- f. Do you still speak Chabacano every day?

Ta platiká pa ba usted Chabacano todo el dia?

- g. Do your children know Chabacano?

Ta platiká ba Chabacano el mga iho di usted?

- h. Do you think children should learn Chabacano in school?

Ta pensa ba usted que debe ensañá Chabacano na eskwela?

- i. In Cavite City, what are the neighborhoods where people still speak Chabacano?

Na Cavite City, kosa-kosa el mga barrjo ta platiká pa Chabacano?

- j. Have you been to Ternate? Zamboanga? Can you understand their Chabacano?

Ya pwede ba usted andá na Ternate? Zamboanga? Ta intindi ba usted el Chabacano de ilo?

- k. What is the difference between Chabacano in Cavite and Ternate or Zamboanga?

Kosa-kosa el mga diperensja entre el Chabacano de Cavite y Ternate o Zamboanga?

- l. In your opinion, why don't children in Cavite City speak Chabacano anymore?

Na opinjón de usted, komo el mga kratura no pa ta platiká Chabacano?

3. Cavite in general

- a. Do lots of tourists come to Cavite?

Tiene ba mucho turista ta bisitá na Cavite?

- b. What are some good places to visit in Cavite City?

Kosa el mga bonito lugar para bisitá na Cavite City?

- c. What is the best / most popular restaurant in Cavite?

Kosa el pinakabuena / pinakapopular restawran na Cavite?

- d. In Cavite province, what are some good places to visit?

Taki na probinsia de Cavite, kosa el mga bonito lugar para bisitá?

- e. What are some things you could see / buy here in Cavite province?
Kosa-kosa ta pudi mirá / komprá na probinsja de Cavite?
- f. Corregidor is part of Cavite City too, right? What do they have there?
Parte rin de ese ciudad el Corregidor, no ba? Cosa tiene alya?
- g. Which church in Cavite City do you go to?
Donde usted ta andá para uí misa na Cavite?
- h. How old is San Roque church?
Kwanto año ya el iglesia del San Roque?
- i. How many years have they been building the San Roque church? When will the construction be finished?
Kwanto año ya ta así ese iglesia de San Roque? Kwando di kabá kel konstruksjón?
- j. Who is the patron saint of Cavite City?
Kjen el patron de Cavite City?

4. Hobbies, pastimes

- a. What are your hobbies? What do you like to do if you have time?
Kosa el mga libangan de usted? Kosa usted kjere así si tjene tjempo?
- b. What do you like to do on the weekends?
Kosa-kosa usted ta así na mga weekends?
- c. Do you belong to any clubs or organizations?
Mjembro ba usted de un klab o organisasjón?

- d. What is your favorite food?
Kosa el paborito komida o bjanda de usted?
- e. Is there any kind of food in Cavite that you can't find anywhere else?
Kosa tipo de komida tjene taki na Cavite ke no pwede enkontra na otro lugar?
- f. What your favorite thing to cook?
Kosa el paborito de usted para kosiná?
- g. What is your favorite movie / TV show? What kind of movie/show is it?
Kosa el paborito sine / programa de telebisjón de usted? Kosa tipo de sine/programa ese?
- h. What kind of music do you like?
Kosa tipo de músika kjere usted?
- i. Do you like to sing or dance?
Kjere ba usted kantá o bajlá?
- j. Do you like/want to travel? Where have you gone? What places would you like to visit?
Kjere ba usted bjahá? Donde ya pwede usted andá? Donde usted kjere bjahá?
- k. Have you ever lived anywhere outside of Cavite City? When? Why?
Ya pwede ba usted bibí apwera de Cavite? Kwando? Komo?
- l. Do you have family outside of Cavite City? Where?
Tjene ba usted pamilja apwera de Cavite City? Donde?

5. The past – Cavite history

- a. How old is Cavite City?

Kwanto año ya el syudad de Cavite?

- b. Where was Cavite Puerto in the old days?

Donde el Cavite Puerto antes?

- c. Who lived in the different districts or barrios?

Kjen ya bibí na mga otro-otro distrito o barrio na Cavite?

- d. Where did the Spanish live? The Chinese? The Filipinos?

Donde ya bibí el mga Español? El mga Chino? El mga Filipino?

- e. What happened in Cavite during the war (WWII)? What did your family do during the war?

Kosa ya pasá taki na Cavite City na guerra? Kosa ya así su pamilja durante el gerra?

6. The past – childhood and traditions

- a. Do you have brothers or sisters? How many?

Tjene ba usted ermano o ermana? Kwanto?

- b. What kinds of games did you play when you were little? What kind are there now?

Kosa-kosa el mga hwego tjene kwando chikito pa ustedes? Kosa tipo tjene ora?

- c. When you were little, did you have a favorite story?

Kwando chikito pa usted, tjene ba usted un paborito kwento?

- d. What kind of beliefs or superstitions are there in Cavite?

Kosa tipo de krejensja o superstition tiene taki na Cavite?

- e. Do you believe in ghosts or other things, like the aswang or the capre? Do you know any stories about them?

Ta kre ba usted na mga multo o otro kosa, komo el aswang o el kapre?

Sabe ba usted kwento sobre ilos?

- f. When you were little, how did you celebrate Christmas? Your birthday?

Kwando chikito pa usted, kilaya ta así celebrá la Navidad? Su kumpleaños?

- g. How do you celebrate those holidays now?

Kilaya ta así celebra la Navidad/kumpleaños ahora?

- h. What kind of food is usually served at Christmas?

Kosa ba el típiko komida del Navidad?

- i. What is your favorite holiday or fiesta?

Kosa el paborito fjesta de usted?

- j. How is the Cavite City fiesta celebrated?

Kilaya ta así celebrá el fjesta de Cavite City?

- k. What is Flores de Mayo? Regada? How are they celebrated?

Kosa el Flores de Mayo/Regada? Kilaya ta así celebrá?

- l. When did you get married? Who is your spouse? How did you meet?

Kwando el kasamjento de usted? Kjen el marido de usted? Kilaya ya konosí usted kon eli?

m. Do you have kids? How many?

Tjene ba usted ihos? Kwanto?

n. How old are they? Where do they live now?

Kwanto año ya ilos? Donde ilos ta kedá?

o. What were your parents like? Grandparents? What were their jobs?

Pwede ba usted deskribí su mga mayores? Agwelos? Kosa el trabaho de ilos?

p. Have you ever met anyone famous?

Ya pwede ba usted konosí kon un persona famoso?

q. When you were still single, what was the fashion for men/women like?

Kwando soltera/soltero pa usted, komo el estilo de ropa para el mga ombre/mujer?

r. In your opinion, how do you think the city has changed since you were little?

En el opinjón de usted, kilaya ya kambiá ese sjudad desde chikito pa usted?

7. The future

a. What would you do if you won the lottery?

Kosa di así usted si di ganá usted el lotería?

- a. In your opinion, are there things about Cavite that should be changed?

Na opinjón de usted, tiene ba kosa taki na Cavite ke debi kambjá?

- b. What would you do if you were the president of the Philippines?

Kosa di así si usted el presidente de Pilipinas?

- c. What are your hopes for your grandchildren/children?

Kosa ta esperá usted para con su mga njeto/kratura?

- d. What do you think will happen to the Chabacano language?

Kosa ta pensá usted di pasá kon el lenguahe Chabacano?

Appendix B: Word List Task Responses

The following list summarizes the target words meant to be elicited during this task, along with the actual responses received from the consultants and the origin of each word. The table also indicates when participants provided a different lexical item based on a different interpretation of what was shown in the pictures. The target words in the list are nouns unless otherwise marked as verbs. Speakers tended to use the imperfective aspect marker *ta* before each verb, but also occasionally used the perfective *ya*, future *di*, or left the verb unmarked. Measurements were not taken from the vowels in the aspect markers, so I have omitted the markers in this list. The list also includes some examples of phonological variation, e.g. *plátanos* ‘banana’ with or without the final *-s*, which were both commonly elicited forms.

English target	Chabacano target	Actual responses	Word origin
banana	/ˈplatanos/	[ˈplatanos] [ˈplatano] [ˈsagin]	Sp. <i>plátano</i> Tag. <i>saging</i>
bell	/kamˈpanaʔ/	[baˈnana] [kamˈpanaʔ] [kamˈpana]	Eng. <i>banana</i> Sp. <i>campana</i>
belly	/baˈriga/	[baˈriga] [ˈstomago]	Sp. <i>barriga</i> Sp. <i>estómago</i> ‘stomach’
bird	/ˈpaharo/	[ˈtʃan] [ˈbeli]	Tag. <i>tiyan</i> Eng. <i>belly</i>
		[sintuˈron] ‘belt’ [ˈparo] [ˈparu] [ˈpahro] [ˈibon]	Sp. <i>cinturón</i> Sp. <i>pájaro</i> Tag. <i>ibon</i>
black	/ˈnegro/	[ˈsisiw] ‘chick’ [ˈnegro] [ˈnegru] [iˈtim] [ˈblak]	Tag. <i>sisiw</i> ‘chick’ Sp. <i>negro</i> Tag. <i>itim</i> Eng. <i>black</i>
blue	/aˈsul/	[aˈsul] [ˈblu]	Sp. <i>azul</i> Eng. <i>blue</i>
brown		[tʃokoˈlate] [tʃokoˈlateʔ] [tʃokoˈlati] [tʃokoˈlatiʔ]	Sp. <i>chocolate</i>
		[ˈbrawn] [reˈpoʎo] [riˈpoʎo] [riˈpoʎu] [ˈkabeɟʒ] [kaˈɲon]	Eng. <i>brown</i> Sp. <i>repollo</i> Eng. <i>cabbage</i> Sp. <i>cañon</i>
cannon	/kaˈɲon/	[kaˈɲon]	Sp. <i>cañon</i>
chocolate	/tʃokoˈlateʔ/	[tʃokoˈlateʔ] [tʃokoˈlate] [tʃokoˈlati] [tʃokoˈlatiʔ]	Sp. <i>chocolate</i>
clock	/reˈlo/	[ˈtʃokolejt] [reˈlo]	Eng. <i>chocolate</i> Sp. <i>reloj</i>
cod	/bakaˈlaw/	[bakaˈlaw] [pisˈkaw] ‘fish’	Sp. <i>bacalao</i> Sp. <i>pescado</i>

English target	Chabacano target	Actual responses	Word origin
collar	/'kweʎo/	['kweʎo] ['kweʎu] ['kolar]	Sp. <i>cuello</i> Eng. <i>collar</i>
comb	/'pejni/	['pejni] ['pajne] (rare) [paj'neta]	Sp. <i>peine</i> Sp. <i>paineta</i> 'ornamental comb'
comb (v.)	/paj'na/	[paj'na] [pej'na]	Sp. <i>peinar</i>
cook (v.)	/ku'si/	[ku'si] [kosi'na]	Sp. <i>cocer</i> Sp. <i>cocinar</i>
cork	/ta'pon/	[ta'pon] [bo'teʎa] 'bottle' [bu'teʎa] ['bino] 'wine' ['binu]	Sp. <i>tapón</i> Sp. <i>botella</i> Sp. <i>vino</i>
corn	/ma'ʔis/	['alak] 'wine' [ma'is]	Tag. <i>alak</i> 'wine' Sp. <i>mais</i>
cover (v.)	/ta'pa/	[ta'pa] [tapa'dera] 'lid, cover'	Sp. <i>tapar</i> Sp. <i>tapadera</i>
cross	/'krus/	['krus] [krusi'piho] 'crucifix' [krusi'pijo] [krusi'piju] ['kristo] 'Christ' ['kras] ['krusifiks]	Sp. <i>cruz</i> Sp. <i>crusifijo</i> 'crucifix' Sp. <i>cristo</i> 'Christ' Eng. <i>cross</i> Eng. <i>crucifix</i>
daing 'dried fish'	/'daʔiŋ/	['daʔiŋ]	Tag. <i>daing</i>
doctor (male)	/dok'tor/	[dok'tor] [dok'toɾ]	Sp. <i>doctor</i>
dog	/'pero/	[la'laki] 'man' [pero] [peru] [pehro] ['aso]	Tag. <i>lalaki</i> 'man' Sp. <i>perro</i> Tag. <i>aso</i> 'dog'
drum	/tam'bol/	['dog] [tam'bol] ['dram] ['bombo]	Eng. <i>dog</i> Sp. <i>tambor</i> Eng. <i>drum</i> Sp. <i>bombo</i> 'bass drum'

English target	Chabacano target	Actual responses	Word origin
eagle	/ 'agila/	['agila] ['paharo] 'bird' ['igel] ['loro] 'parrot' ['parot]	Sp. <i>águila</i> Sp. <i>pájaro</i> 'bird' Eng. <i>eagle</i> Sp. <i>loro</i> 'parrot' Eng. <i>parrot</i>
ear	/o 'rehas/	['orehas] ['urehas]	Sp. <i>oreja</i>
egg yolk	/ 'jema/	['jema] (rare) [kulu 'raw di 'webos] ['jok]	Sp. <i>yema</i> lit. 'red of egg' Eng. <i>yolk</i>
eggs	/ 'webos/	['webos] ['webus] ['webos 'prito] 'fried eggs' [it 'log]	Sp. <i>huevos</i> Sp. <i>huevos fritos</i> Tag. <i>itlog</i> 'egg'
electric fan	/bentila 'dor/	[bentila 'dor] [bentila 'dor]	Sp. <i>ventilador</i>
elephant	/ele 'pante/	[ele 'pante] [eli 'panti] [ele 'fante] (rare)	Sp. <i>elepante</i> (Tag. <i>elepante</i>)
factory	/ 'pabrika/	['pabrika] ['fabrika] ['planta] [gawaʔan] ['paktori]	Sp. <i>fábrica</i> Sp. <i>planta</i> 'factory' Tag. <i>gawaan</i> Eng. <i>factory</i>
fan	/aba 'niko/	[aba 'niko] [pamaj 'paj] [paj 'paj]	Sp. <i>abanico</i> Tag. <i>pamaypay</i>
fire	/ 'pwego/	['pwego] ['fwego] (rare) ['pwegu] [a 'poj]	Sp. <i>fuego</i> Tag. <i>apoy</i>
flan	/ 'letʃe 'plan/	['letʃe 'plan] ['postre]	Sp. <i>leche</i> 'milk', <i>flan</i> 'flan' Sp. <i>postre</i> 'dessert'

English target	Chabacano target	Actual responses	Word origin
flour	/a'rina/	[a'rina]	Sp. <i>harina</i>
	/ha'rina/	[ha'rina]	
flowers	/'plores/	['polbos]	Sp. <i>polvos</i> 'powder'
		['flawr]	Eng. <i>flour</i>
		['plores]	Sp. <i>flores</i>
		['flores] (rare)	
flute	/'plawta/	[bulak'lak]	Tag. <i>bulaklak</i>
		[bo'ke]	'flower'
		['dejsi] 'daisy'	Eng. <i>daisy</i>
		['plawta]	Sp. <i>flauta</i>
		['pluta]	Eng. <i>flute</i> , Sp. <i>flauta</i>
		[trom'peta] 'trumpet'	Sp. <i>trompeta</i>
fork	/tini'dor/	[to'rotot] 'horn'	Tag. <i>torotot</i> 'horn'
		[plut]	Eng. <i>flute</i>
		[klari'nete] 'clarinet'	Sp. <i>clarinet</i> 'clarinet'
		[klari'net]	Eng. <i>clarinet</i>
		[tini'dor]	Sp. <i>tenedor</i>
fruit	/'prutas/	['prutas]	Sp. <i>fruta(s)</i>
garlic	/'ahos/	['frutas] (rare)	
		['ahos]	Sp. <i>ajo</i>
		['ahus]	
gas stove	/kosi'niʎa/	['bawan]	Tag. <i>bawang</i>
		['garlik]	Eng. <i>garlic</i>
		[kosi'niʎa]	Sp. <i>cocinilla</i> 'small stove'
		[pu'gon]	Sp. <i>fogón</i> 'stove, hearth'
ginger	/in'hibri/	[ka'lan]	Tag. <i>kalan</i>
		['gastob]	Eng. <i>gas stove</i>
		[in'hibri]	Sp. <i>jengibre</i>
		['luja]	Tag. <i>luya</i>
		[asa'pran]	Chab. 'turmeric' (< Sp. <i>azafrán</i> 'saffron', cf. the color)
gray		[a'bo]	Tag. <i>abo</i> 'ash'
		[abu'hin]	Tag. <i>abuhin</i> 'ash, gray'
		[sini'saw]	Sp. <i>cenizado</i> 'ashen'
		[si'nisa]	Sp. <i>ceniza</i> 'ash'
		[gris] (rare)	Sp. <i>gris</i> 'gray'
		[grej]	Eng. <i>gray</i>

English target	Chabacano target	Actual responses	Word origin
green	/'berde/	['berde] ['berdi] ['beɪde]	Sp. <i>verde</i>
guard (n.)	/'gwardja/	['grɪn] ['gwardʒa] [pu 'lis] 'police' ['gɑrd]	Eng. <i>green</i> Sp. <i>guardia</i> Eng. <i>police</i> Eng. <i>guard</i>
guard (v.)	/gwar' dja/	[senti 'nel] [gwar' dʒa] [si 'gwardʒa]	Eng. <i>sentinel</i> Sp. <i>guardar</i> lit. <i>hacer guardia</i> 'do guard'
guitar	/gi' tara/	[gi' tara] [gi' tar]	Sp. <i>guitarra</i> Eng. <i>guitar</i>
heel of a shoe	/ta' kon/	[ta' kon] [ta' koŋ]	Sp. <i>tacón</i>
hen	/ga' lina/	[ga' lina] ['gaʎo] ['gaʎu] ['poʎo] [ina' hin] [ma' nok]	Sp. <i>gallina</i> Sp. <i>gallo</i> 'rooster' Sp. <i>pollo</i> 'chicken' Tag. <i>inahin</i> 'hen' Tag. <i>manok</i> 'chicken'
house	/'kasa/	['tʃiken] ['kasa] ['bahaj]	Eng. <i>chicken</i> Sp. <i>casa</i> Tag. <i>bahay</i>
ice	/'jelo/	['jelo]	Sp. <i>hielo</i>
iron	/'plantʃa/	['plantʃa] [plantʃa' dor] [plantʃa' dora]	Sp. <i>plancha</i> Sp. <i>planchador</i> , <i>planchadora</i> 'person who irons'
iron (v.)	/plan' tʃa/	[plan' tʃa]	Sp. <i>planchar</i>
jail	/kar' sel/	[kar' sel] ['rehas] ['preso] ['presu] [kala' boso] [ku' luŋan]	Sp. <i>cárcel</i> Sp. <i>rejas</i> 'bars' Sp. <i>preso</i> 'jailed', Tag. 'jail' Sp. <i>calabozo</i> 'prison' (Tag. <i>kalaboso</i>) Tag. <i>kulungan</i> 'jail'

English target	Chabacano target	Actual responses	Word origin
jelly, jam	/ha'leja/	[ha'leja] ['dʒam] ['dulse] ['stroberi] [pala'man]	Sp. <i>jalea</i> Eng. <i>jam</i> Sp. <i>dulce</i> 'sweet' Eng. <i>strawberry</i> Tag. <i>palaman</i> 'condiment, filling'
jewelry	/a'lahas/	[a'lahas] [a'niʎo] 'ring' [siŋ'siŋ] 'ring' [pul'seras] 'bracelet'	Sp. <i>alajas</i> Sp. <i>anillo</i> 'ring' Tag. <i>singsing</i> 'ring' Tag. <i>pulseras</i> 'bracelet' (< Sp. <i>pulsera</i>)
key	/'ʎabe/	[a'retes] 'earrings' [ka'dena] 'chain' ['ʎabe] ['ʎabi]	Sp. <i>aretes</i> 'earrings' Sp. <i>cadena</i> 'chain' Sp. <i>llave</i>
king	/'rej/	['susi?] ['rej] ['firej] ['hari?] ['hari]	Tag. <i>susi</i> Sp. <i>rey</i> Tag. <i>hari</i>
knees	/ro'diʎas/	['kiŋ] [ro'diʎas] ['tuhod]	Eng. <i>king</i> Sp. <i>rodillas</i> Tag. <i>tuhod</i>
lechon	/li'tʃon/	[li'tʃon] ['pwerko] ['pwerku] ['pwelko]	Sp. <i>lechón</i> Sp. <i>puerco</i>
lemon	/li'mon/	[ha'mon] 'ham' [li'mon] ['lemon] [limo'nada]	Sp. <i>jamón</i> 'ham' Sp. <i>limón</i> Eng. <i>lemon</i> Sp. <i>limonada</i> 'lemonade'
lightbulb	/bom'biʎa/	[bom'biʎa] [bum'biʎa]	Sp. <i>bombilla</i>
lighthouse	/pa'rola/	[lus] [pa'rola] ['paro]	Sp. <i>luz</i> 'light' Sp. <i>parola</i>
lightning	/re'lampago/	['tore] 'tower' [kid'lat] ['trweno] [re'lampago] (rare)	Sp. <i>torre</i> 'tower' Tag. <i>kidlat</i> Sp. <i>trueno</i> 'thunder' Sp. <i>relámpago</i>

English target	Chabacano target	Actual responses	Word origin
mamon (small round cake)	/ma'mon/	[ma'mon]	Mex. Sp. <i>mamón</i> (type of cake; < <i>mamar</i> 'to suckle') Sp. <i>pan</i> 'bread' Eng. <i>cake</i>
man	/'ombre/	['pan] 'bread' ['kejk] 'cake' ['ombre]	Sp. <i>hombre</i> 'man'
marry (v.)	/ka'sa/	['ombri] [ka'sa] [kasa'mjento] 'wedding' [kami'na] 'walk' [ka'sal] 'wedding'	Sp. <i>casar</i> Sp. <i>casamiento</i> 'wedding' Sp. <i>caminar</i> 'walk' Tag. <i>kasal</i> 'wedding' (< Sp. <i>casar</i> 'to marry')
milkfish	/ba'ɲus/	[ka'piʎa] 'chapel' [ba'ɲus] [pis'kaw] 'fish' [is'da] 'fish'	Sp. <i>capilla</i> 'chapel' Tag. <i>bangus</i> Sp. <i>pecado</i> 'fish' Tag. <i>isda</i>
nose	/na'ris/	[na'ris] [i'lon]	Sp. <i>nariz</i> Tag. <i>ilong</i>
onion	/se'boʎas/	['nos] [se'boʎas] [si'boʎas] [si'bujas]	Eng. <i>nose</i> Sp. <i>cebollas</i> Tag. <i>sibuyas</i> (< Sp. <i>cebollas</i>)
orange (color)	/na'ranha/	[ka'hel] [na'raŋha] [dalaŋ'hita?]	Sp. <i>naranja cajel</i> Sp. <i>naranja</i> Tag. <i>dalanhita</i> (< Sp. <i>naranja</i> + diminutive <i>-ita</i>)
orange (fruit)	/na'ranha/	['orendʒ] [ka'hel] [na'raŋha] [naraŋ'hita] [dalaŋ'hita] [dalan'dan] ['orendʒ] [kalamani'si?]	Eng. <i>orange</i> Sp. <i>naranja cajel</i> Sp. <i>naranja</i> Sp. <i>naranja</i> + diminutive <i>-ita</i> Tag. <i>dalandan</i> Eng. <i>orange</i> Tag. <i>kalamansi</i> (citrus fruit)

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painter (female)	/pin'tor/	[pin'tor] [pin'tora] [ba'baʔe]	Sp. <i>pintor</i> (m.) Sp. <i>pintora</i> (f.) Tag. <i>babae</i> 'woman'
pants	/panta'lon/	[panta'lon]	Sp. <i>pantalón</i>
paper(s)	/pa'pel/	[pa'pel] [pa'peles] [pape'litos]	Sp. <i>papel</i> (singular) Sp. <i>papeles</i> (plural) Sp. <i>papelitos</i> (diminutive) Eng. <i>paper</i> Sp. <i>cuaderno</i> 'notebook'
parol 'Christmas lantern'	/pa'rol/	[kwa'derno] 'notebook' [pe'per] [pa'rol]	Sp. <i>farol</i> 'lantern'
peanut	/ma'niʔ/	[ma'niʔ] [ma'ni] ['pinat]	Sp. <i>maní</i> Eng. <i>peanut</i>
peas	/'tʃitʃaro/	['tʃitʃaro] [pa'taniʔ] [gi'santes] [habi'tʃwelas] [bi'tʃwelas]	Mex. Sp. <i>chicharo</i> Tag. <i>patani</i> 'lima beans, kidney beans' Sp. <i>guisantes</i> 'peas' Tag. (<i>ha</i>) <i>bituwelas</i> (< Sp. <i>habichuelas</i> 'kidney beans')
pharmacy	/par'masja/	['bins] 'beans' [par'maʃa] [par'maʃutika] [bo'tika] [parma'ʃutika] ['parsi] [medi'sina] 'medicine'	Eng. <i>beans</i> Sp. <i>farmacia</i> Sp. <i>farmaséutica</i> Sp. <i>botica</i> Sp. <i>farmaséutica</i> Eng. <i>pharmacy</i> Sp. <i>medicina</i> 'medicine'
pink	/'rosas/	['tjenda] 'store' ['rosas] ['piŋk]	Sp. <i>tienda</i> 'store' Sp. <i>rosa</i> 'rose, pink' Eng. <i>pink</i>
pitcher	/pi'tfel/	[pi'tfel] [pi'tfer] ['pitfer] ['agwa] 'water' ['baso] 'glass'	Mex. Sp. <i>pichel</i> Eng. <i>pitcher</i> Sp. <i>agua</i> 'water' Sp. <i>vaso</i> 'glass' (Tag. <i>baso</i>)

English target	Chabacano target	Actual responses	Word origin
poor, nothing	/'pobre/, /'nada/	['pobre] ['bolsa] ['paket]	Sp. <i>pobre</i> Sp. <i>bolsa</i> 'pocket' Eng. <i>pocket</i>
priest	/'padre/	['padre] ['pare?] ['kura] [saser'dote] [ka'toliko] 'Catholic'	Sp. <i>padre</i> 'father' Tag. <i>pare</i> (< Sp.) Sp. <i>cura</i> 'priest' Sp. <i>sacerdote</i> 'priest' Sp. <i>católico</i> 'Catholic'
purple	/bjo'leta/	[bjo'leta] ['lila] ['bajoleŋ] ['ube]	Sp. <i>violeta</i> Sp. <i>lila</i> 'lilac' Eng. 'violet' Tag. <i>ube</i> 'purple yam'
radish	/'rabanos/	['ubi] ['rabanos] ['labanos] ['radiŋ]	Sp. <i>rábanos</i> Tag. <i>labanos</i> (< Sp.) Eng. <i>radish</i>
rain	/agwa'sero/	[agwa'sero] [gwa'sero] ['agwa] 'water' [u'lan] 'rain'	Sp. <i>aguacero</i> 'downpour' Sp. <i>agua</i> 'water' Tag. <i>ulan</i> 'rain'
rain (v.)	/ku'bi/	[ku'bi]	Sp. <i>llover</i>
red	/kolo'raw/	[kolo'raw] [kulu'raw] ['roho] [pu'la] ['red]	Sp. <i>colorado</i> 'red' Sp. <i>rojo</i> 'red' Tag. <i>pula</i> 'red' Eng. <i>red</i>
rose bush	/ro'sas/	['rosas] [pa'so?] 'flower pot'	Sp. <i>rosas</i> 'roses' Tag. <i>paso</i> 'flower pot'
run (v.)	/ku'ri/	[ku'ri]	Sp. <i>correr</i>
saxophone	/sakso'pon/	['saksopon] [sakso'pon] [trom'peta] 'trumpet'	Eng. <i>saxophone</i> Sp. <i>saxofón</i> Sp. <i>trompeta</i> 'trumpet'
shoes	/sa'patos/	['trampet] [sa'patos]	Eng. <i>trumpet</i> Sp. <i>zapatos</i>
shoulder	/'ombro/	['ombro] ['ombru] [ba'likat] ['braso]	Sp. <i>hombro</i> Tag. <i>balikat</i> Sp. <i>brazo</i> 'arm (Tag. <i>braso</i>)

English target	Chabacano target	Actual responses	Word origin
skirt	/'palda/	['palda]	Sp. <i>falda</i>
sleep (v.)	/dur'mi/	[dur'mi] [dul'mido]	Sp. <i>dormir</i> Sp. <i>dormido</i> 'asleep'
smoke	/'umo/ /'humo/	['umo] ['humo]	Sp. <i>humo</i>
soap	/ha'bon/	['nube] 'cloud' [ha'bon] [sa'bon]	Sp. <i>nube</i> 'cloud' Sp. <i>jabón</i> Tag. <i>sabon</i> (< Old Sp.)
sofa	/so'pa/	['sop] [so'pa] [so'fa] (rare)	Eng. <i>soap</i> Sp. <i>sofá</i>
soldier	/sul'daw/	[sul'daw] [soldado] [sun'dalo] [ma'rino] ['soldʒer]	Sp. <i>soldado</i> Tag. <i>sundalo</i> (< Sp.) Sp. <i>marino</i> 'marine' Eng. <i>soldier</i>
spoon	/ku'tʃara/	[ku'tʃara] [ku'tʃara?] [kuʃa'rita] [kuʃa'rita?] [ku'bjertos] 'silverware'	Sp. <i>cuchara</i> Sp. <i>cucharita</i> 'little spoon' Sp. <i>cubiertos</i> 'silverware'
star	/is'tréʎa/	[is'treʎa] ['streʎa] [is'treʎas] ['streʎas] [bi'twin] ['star]	Sp. <i>estrella</i> Tag. <i>bituin</i> Eng. <i>star</i>
sugar	/a'sukal/	[a'sukal] [a'sukar] (rare) ['ʃugar]	Sp. <i>azúcar</i> Eng. <i>sugar</i>
sun	/'sol/	['sol] ['araw]	Sp. <i>sol</i> Tag. <i>araw</i>
swim (v.)	/na'da/	[na'da] [ba'na] ['swimiŋ]	Sp. <i>nadar</i> Sp. <i>bañar</i> 'bathe' Eng. <i>swimming</i>

English target	Chabacano target	Actual responses	Word origin
tapa 'dried beef'	/'tapa/	['tapa?] ['tapa] ['karne] 'meat' [tapsi'log]	Tag. <i>tapa</i> Sp. <i>carne</i> 'meat' Tag. <i>tapsilog</i> (meal with <i>tapa</i> 'dried beef', <i>sinangag</i> 'fried rice', <i>itlog</i> 'egg')
		['bjanda] 'main dish'	Sp. <i>vianda</i> 'food, vegetables'
		[ko'mida] 'food'	Sp. <i>comida</i> 'food'
		[moris'keta] 'steamed rice'	Sp. <i>morisqueta</i> 'steamed rice'
taro	/'gabi/	['gabi]	Tag. <i>gabi</i>
teacher	/ma'estra/	['mestra] [ma'estra] ['majstra] ['guro]	Sp. <i>maestro</i> Tag. <i>guro</i>
tears	/'lagrimas/	['titfer] ['lagrimas] ['luha] [ʎo'ra] 'cry' [ʎantos] 'crying'	Eng. <i>teacher</i> Sp. <i>lágrima</i> Tag. <i>luha</i> Sp. <i>llorar</i> 'to cry' Sp. <i>llanto</i> 'crying'
telephone	/te'lepono/	[te'lepono] [te'lefono] (rare)	
thread	/algo'don/	[algo'don] [si'nulid]	Sp. <i>algodón</i> 'cotton' Tag. <i>sinulid</i>
tomato	/to'matis/	[to'matis] [ka'matis] [to'mato]	Sp. <i>tomate</i> Tag. <i>kamatis</i> Eng. <i>tomato</i>
tram, trolley	/tran'bia/	['trambija] ['trak] 'truck' ['bus] 'bus' ['bas] 'bus'	Sp. <i>tranvía</i> Eng. <i>truck</i> Sp. <i>bus</i> Eng. <i>bus</i>
tree	/'pono?/	['troli] 'trolley' ['pono?] ['puno?] ['arbol] (rare)	Eng. <i>trolley</i> Tag. <i>puno</i> Sp. <i>árbol</i>

English target	Chabacano target	Actual responses	Word origin
vegetables	/gu'laj/	[gu'laj] ['gulaj] ['petʃaj] 'bok choy' ['kerots] 'carrots' [ber'duras] 'vegetables' [birin'henas] 'eggplant' [le'gumbre] 'vegetable' [le'gumes] [pi'mjento] 'pepper' [pi'pino] 'cucumber'	Southern Tag. <i>gulay</i> Manila Tag. <i>gulay</i> Tag. 'bok choy' Eng. <i>carrots</i> Sp. <i>verduras</i> 'vegetables' Sp. <i>berenjena</i> 'eggplant' Sp. <i>legumbre</i> 'vegetable' Sp. <i>pimiento</i> 'pepper' Sp. <i>pepino</i> 'cucumber' Sp. <i>blanco</i>
white	/'blanko/	['blaŋko] ['blaŋku] [pu'tiʔ] ['wajt]	Tag. <i>puti</i> 'white' Eng. <i>white</i>
witch	/'bruha/	['bruha] [inkan'tada] [maŋku'kulam] [ma'dziʃan] 'magician' ['witʃ]	Sp. <i>bruja</i> Sp. <i>encantada</i> 'enchanted' Tag. <i>mangkukulam</i> Eng. <i>magician</i> Eng. <i>witch</i>
woman	/mu'her/	[mu'her] [mu'hel] [mu'heɪ]	Sp. <i>mujer</i>
yellow	/ama'riʎo/	[ama'riʎo] [ama'riʎu] [di'law]	Sp. <i>amarillo</i> Tag. <i>dilaw</i>