

Pitch polarity in Palenquero

A possible locus of H tone

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In the Afro-Iberian creole language Palenquero, tonic syllables receive a level H tone, and lexical words have at most one H tone per word. According to previous studies, the final H tone of a phrase is usually either maintained as a level tone with no L% boundary tone, or is downstepped to a mid tone. The present study examines phrase-final combinations of words ending in tonic vowels followed by one or more negative, possessive, or object clitics, all of which receive an H tone. Field data reveal a systematic process of tonal dissimilation between the tonic syllables, most frequently involving pitch UPSTEPPING of the clitic, and less frequently downstepping of the clitic. This systematic pitch dissimilation, not found elsewhere in Palenquero (including other phrase-final combinations of successive tonic syllables that do not involve clitics), suggests the operation of the Obligatory Contour Principle, in turn pointing to the emergence of an H tone lexically attached to Palenquero enclitics.

1. Introduction: Level and downstepped phrase-final high pitch in Palenquero

The Afro-Iberian creole language Palenquero, spoken in San Basilio de Palenque, Colombia, exhibits intonational patterns that differ notably from the surrounding regional dialects of Spanish. In their analysis of Palenquero intonation, Hualde and Schwegler (2008) observe that accented syllables receive a level H tone, and lexical words have at most one H tone per word. The authors conclude (p. 25) that “Palenquero is best analyzed as an accentual language, rather than as a language with lexical tone.” The present study, while essentially grounded in Hualde and Schwegler’s conclusion, offers more detailed data on a particular configuration that may signal a final vestige (or the incipient development) of a phonologically distinctive tone. Attention will be directed specifically at the phrase-final negator *-nú*, the post-nominal possessive clitics *-mí* “my” and *-sí* “your,” and the dative and accusative clitics *-mí* “me” and *-bó* “you.”

The data show a process of tonal dissimilation, which in turn suggests the presence of a distinctively specified High tone on these clitics.

Among the many ways in which Palenquero intonation differs from patterns found in Spanish is the behavior of phrase-final oxytonic words. Hualde and Schwegler (2008:13–15) observe the frequent absence of an L% boundary tone: “a level high tone on the final syllable, without the final fall that is nearly obligatory [...] in final declarative sentences.” An alternative resolution is downstepping of the phrase-final H tone to a mid tone: “[...] the H tone of the last syllable is sometimes downstepped, so that it is pronounced at the same level tone as the preceding (toneless pretonic) syllable” (p. 15) The authors note (p. 15) that “from the data available it is not yet entirely clear what pragmatic or other factors trigger this downstepping of utterance-final highs.” They document a similar phenomenon (p. 17) when the sentence ends in two stressed monosyllables.¹

2. Palenquero tonic clitics

Palenquero negation is carried out by the negative particle *-nú* affixed to the end of the negated clause. The negator *-nú* has been described as a stressed element having a high pitch, and the pitch tracks offered by Hualde and Schwegler (2008:11, 17) are consistent with this observation. The data collected for the present study reveal that other enclitics also receive a high tone (i.e. always pronounced with a higher pitch than immediately preceding atonic syllables, and at least as high as preceding tonic syllables),² and therefore should be considered as stressed items. This group includes the postnominal possessives *-mí* “mine,” *-sí* “your (s.),” *-éle* “his, her,” *-súto* “our,” and the corresponding dative and accusative clitics (identical to the possessives except for the 2-s *-bó* “your”). It should be noted from the outset that whereas in Palenquero (as in Spanish) a pitch accent may be phonologically distinctive in polysyllabic words (e.g. *mína* “mine” vs. *miná* “to see,” *cása* “house” vs. *casá* “to marry”), there are no

1. Moniño (2003:524) asserts that the difference in pitch between accented and unaccented syllables remains constant throughout a phrase: five semitones or two and a half whole musical tones. The data collected for the present study do not confirm this observation; the difference between high and low pitch, normalized by F0 to equivalent intervals on the musical scale, is typically on the order of 1–3 semitones, although inter- and intra-speaker variation is considerable.

2. Throughout this study I use a heuristic determination of high and low pitch similar to that stated by Prieto et al. (2005:375): “In order for a syllable to be perceived as high, the pitch level needs to stay high or rise for a good portion of the accented syllable, “and conversely.

corresponding atonic/low pitched clitics and therefore no true minimal-pair verification of the high pitch on the aforementioned clitics.³ The claim of a high tone is based primarily on their consistent behavior similar to demonstrably phonological high pitch on other words, and with their participation in pitch-polarity phenomena.⁴

When following an oxytonic word, phrase-final negative, possessive, and object clitics reveal a nuanced behavior. In particular, the pitch of the final clitic is almost always distinct from the pitch of the immediately preceding tonic syllable (at least by the average F0 difference between other tonic and atonic syllables) and this difference is often expressed as upstep with respect to the preceding syllable. The same observation does not hold across the board for other sequences of phrase-final non-clitic tonic syllables. Moreover, phrase-final monosyllabic enclitics often depart from the aforementioned level high tone ending, and may exhibit a L% (or HL%) boundary tone, often with upstepped \uparrow H* on the final clitic. As with final downstepping, the precise factors responsible for the boundary tone are not yet known, but in the present corpus this configuration is found most often in utterances that appear to be emphatic or contrastive.⁵

3. Quasi-minimal pairs are easy to find, e.g. *queléba* “want-IMP” vs. *quelé bó* “to want you,” *etuléno* “let’s study” vs. *etulé nú* “to not study,” with the clitics consistently higher in pitch than the corresponding final atonic syllables.

4. It may be that the mora rather than the syllable is the attachment point for the H tone (cf. the discussion in Prieto et al. 2005). For example phrase-final *mái* [maj̩] *mí* “my mother” is nearly always realized with a high tone on the nuclear vowel [a] followed by a sharp dip to a very low tone on the offglide and a sharp rise to a high tone on *mí*. Similarly, phrase-final *bái* [baɪ] “go” always ends with a sharp tonal dip, unlike the usual absence of a low boundary tone with other verbs ending in a single tonic vowel.

5. Despite their assertion of the absence of boundary tones following phrase-final oxytones, Hualde and Schwegler (2008:12) present a pitch track of utterance-final *majaná mí* “my children” in which the upstepped possessive clitic *-mí* is followed by a L% boundary tone; the authors note without further explanation that *-mí* is “emphasized.” In Prieto (2009)’s analysis of Catalan intonation, the HL% boundary tone is associated with obviousness statements and requests. The fact that the Palenquero data were produced in response to a seemingly arbitrary request may have triggered an “obviousness” response, although I have frequently observed the same pattern in spontaneous speech. The (H)L% boundary tone is even more common when phrase-final clitics follow an atonic syllable, and not always correlated with emphatic or contrastive usage, but simply in line with the L% boundary tone following phrase-final atonic syllables: *éle a sendá abuélo mí* “he is my grandfather” or *í téng casa nú* “I don’t have a house.” The exact distribution of (H)L% boundary tones following phrase-final clitics remains to be determined.

3. Data collection for the present study

In order to obtain a reasonable number of samples, including phrase-final combinations of two or three clitics, data were obtained by means of a questionnaire. Interviews were conducted with twenty five young Palenquero speakers (fifteen male, ten female), all of whom had learned Palenquero in school; some also had learned the rudiments of the language at home by listening to older relatives, but none had routinely spoken Palenquero before attending school. The ages of the interviewees ranged from eighteen to twenty-two. A second set of interviews was conducted with twenty five traditional Palenquero speakers (thirteen men and twelve women), all considered true native speakers, with ages ranging from forty five to over ninety.⁶ Both sets of interviewees were recommended by the same colleagues who had assisted in the initial data collection. Each interviewee was asked to translate a number of sentences from Spanish into Palenquero, designed to produce the required clitic sequences. They were also asked specific questions to elicit the appropriate clitic combinations. Phrase-final position was chosen for analysis, to observe the interaction between high pitch and final downstep, and to remove from consideration any possible sandhi or assimilatory effects. Many of the phenomena described in the following sections can also be observed in phrase-internal contexts, but the patterns are not always as clear-cut due to the effects of following syllables. The bisyllabic1-pl *súto* and the 3-s *éle* were excluded from consideration, except in the rare double object constructions of the type *ndá bó éle* “to give it to you,” which normally occur only with *éle*. Possible differences between traditional and younger speakers are the subject of ongoing research and will be reported elsewhere. The following sections, necessarily brief because of space limitations and subject to the vicissitudes of field data collection under less than ideal conditions, present the initial findings and offer a possible interpretation.

6. All Palenquero speakers were recorded in San Basilio de Palenque in 2008–2009, with the able assistance of Víctor Simarra Reyes and Bernardino Pérez Miranda. These two colleagues recommended the interviewees on the basis of their known fluency in Palenquero. The format was free conversation supplemented by directed questions. I conducted all interviews, using both Spanish and Palenquero; during each interview I was assisted by one of the aforementioned colleagues. All recordings were made on a Marantz PMD620 digital recorder using an Audio-Technica ATR-55 directional microphone. The digitized tokens were analyzed using PRAAT software.

4. The behavior of Palenquero phrase-final clitics

In Palenquero phrase-final oxytones followed by a high-pitch clitic, three possible configurations of adjacent tonic syllables are possible: (1) two identical high pitches (i.e. no tonal differential); (2) an upstepped second pitch; (3) a downstepped second pitch. In an initial rough tally, upstep or downstep was defined as a pitch differential at least equal to the average pitch difference between word-internal tonic and atonic syllables for a given speaker. Using this heuristic criterion, nearly all of the phrase-final post-oxytonic enclitics undergo systematic tonal dissimilation (upstep or downstep) with respect to the preceding tonic vowel. To give a more detailed account of the behavior of phrase-final sequences of tonic syllables, individual pitch measurements were taken at the midpoint of each tonic vowel,⁷ and the pitch value of the second vowel was subtracted from the pitch of the first vowel. The data revealed no consistent differences in behavior between the corresponding object and possessive clitics, and therefore the two groups of clitics were analyzed as a single category.⁸ The negator *-nú* showed greater variability, in particular a higher proportion of downstep, and was analyzed separately.⁹ Since the average F0 of male voices is lower than the average F0 for female voices and the average difference in Hz between high and low pitch is correspondingly smaller, male and female data were computed separately. Qualitatively, male and female speakers treat phrase-final sequences of tonic syllables identically; for purposes of illustration, only data from male speakers are included below. Figures 1 and 2 show the behavior of phrase-final sequences of two tonic vowels, the first of which belongs to a (non-clitic) noun or verb. The data represent the 1-s object or possessive *-mí* (in the utterances *é a sendá posá mí* “that is my house” and *bó quelé ablá mí* “you want to speak to me”), the negator *-nú* (in *í a teng posá nú* “I don’t have a house” and *í quelé ablá nú* “I don’t want to speak”), and the non-clitic *má* “more” (in *í quelé ablá má* “I want to speak more”).¹⁰

7. In those instances in which the phrase-final clitic was followed by a L% boundary tone, the vowel of the clitic was also lengthened, and the pitch drop occurred well after the midpoint (e.g. Figure 7), thus not affecting the measurement of pitch differential with respect to the preceding syllable.

8. Two-tailed t-test: $df = 90$, $t = 1.99$, $p = .90$.

9. Two-tailed t-test comparing the behavior of object/possessive clitics vs. *nú*: $df = 282$, $t = 1.97$, $p < .0005$.

10. One-way ANOVA comparing the behavior of object/possessive clitics, *nú*, and non-clitic final tonic monosyllables: $F(2,178) = 7.43$; $p < .001$.

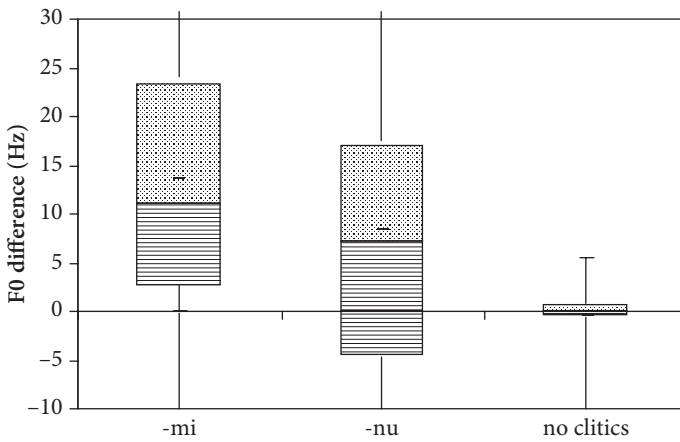


Figure 1. Palenquero male voices, pitch differential of phrase-final tonic syllables with respect to preceding tonic syllable; N = 283 in each category

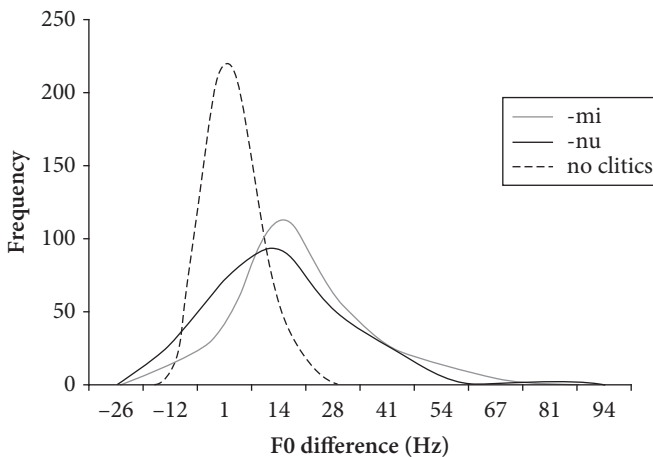


Figure 2. Palenquero male voices, pitch differential of phrase-final tonic syllables with respect to preceding tonic syllable; N = 283 in each category

Figure 3 shows the distribution of pitch differentials in the phrase-final combination *-mí-nú* (ending the utterances *é a sendá posá mí nú* “that is not my house” and *bó quelé ablá mí nú* “you don’t want to speak to me”), demonstrating the predominant phrase-final HIGHER+LOWER pitch pattern when two clitics follow an oxytone.¹¹

11. Two-tailed t-test comparing the behavior of *mí* and *nú* in *-mí-nú* clusters (df = 150, t = 1.98, p < .0001). The higher+lower tonal pattern for *-mí-nú* following a high-pitched syllable is consistent with the cross-linguistic tendency summarized by Hyman (2007:3–4) for a high tone to be additionally raised when preceding a low tone.

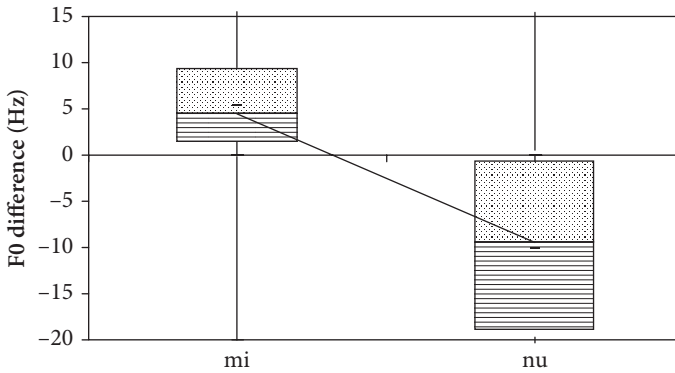


Figure 3. Palenquero male voices, pitch differential of phrase-final *-mí -nú* with respect to preceding tonic syllable; all responses (N = 151)

5. Pitch polarity of phrase-final single enclitics: Examples

A typical example of a raised pitch on a phrase-final post-oxytone clitic is (1) and Figure 4:¹²

- (1) (*i quelé ndrúmi nú*
 1-s want sleep NEG
 ‘I don’t want to sleep’)

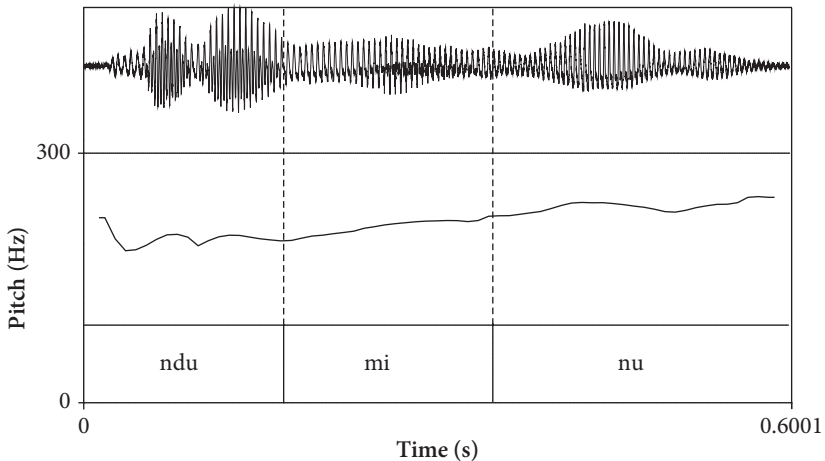


Figure 4. Palenquero *ndrumí nú* ‘not sleep’

12. In the transcribed examples, tonic vowels are indicated by a written accent mark. All pitch tracks represent male speakers, unless otherwise indicated.

Possessive clitics show a similar pattern, as in (2) and Figure 5.

- (2) (*éle a sendá*) *mamá mí*
 3-s ASP be mother POSS-1s
 “she is my mother”

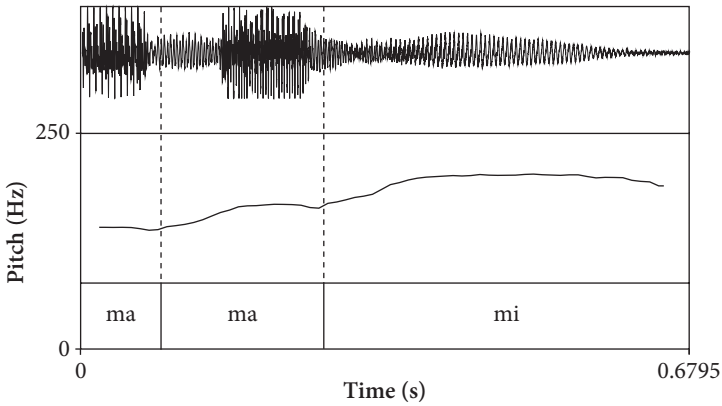


Figure 5. Palenquero *mamá mí* ‘my mother’

Object clitics behave similarly to possessive clitics, as in (3) and Figure 6.

- (3) *tó ané ablá mí*
 all 3-PL speak 1-s
 “all of them speak to me”

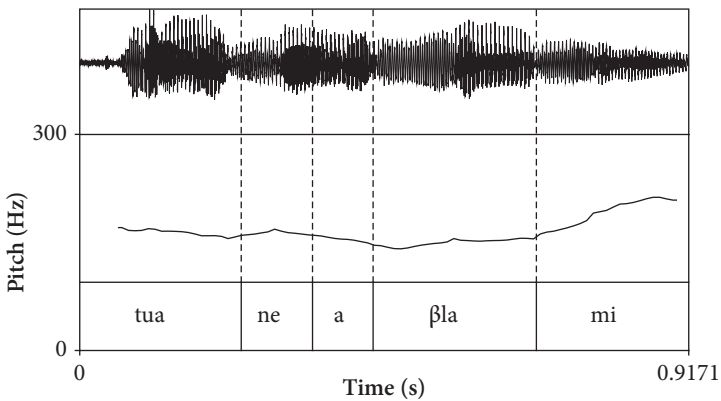


Figure 6. Palenquero *tó ané ablá mí* ‘all of them speak to me’

The phrase (*i quelé*) *ndrumí nú* ‘I don’t want to sleep’ of Figure 4, uttered by another speaker in response to the question *bó quelé ndrumí?* ‘do you want to sleep?’, is shown in Figure 7; the $\text{H}^* + \text{L}$ and $\text{L}\%$ boundary tone are apparently due to the emphatic/contradictory response.

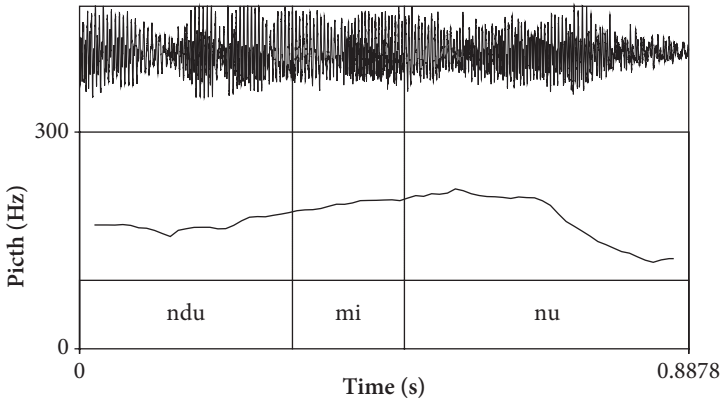


Figure 7. Palenquero *ndrumí nú* ‘not sleep’ with $\text{L}\%$ boundary tone

Figure 8 shows the downstep to a mid tone that occurs when two non-clitic tonic syllables occur phrase finally.

- (4) (*ané*) *gobbé a miní má*
 3-PL return PREP come more
 ‘they come back again’

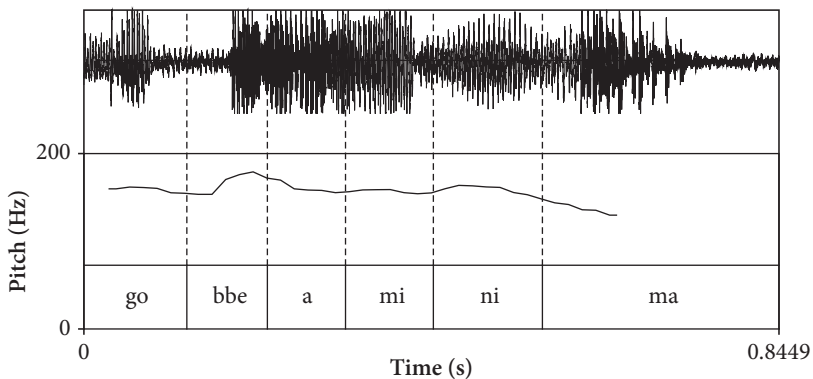


Figure 8. Palenquero *gobbé a miní má* ‘to come back again’

6. Sequences of two or more clitics: Examples

When sequences of two or more phrase-final clitics follow an oxytonic word, the situation becomes more complex. Rather than continual upstepping between a word-final tonic vowel and a sequence of enclitics, an option rarely observed in Palenquero, what occurs is non-monotonic pitch polarity among the successive tonic vowels. The most common configuration is UPSTEPPED CLITIC + DOWNSTEPPED CLITIC. This combination represents roughly $\frac{3}{4}$ of all instances of two clitics following a final tonic syllable. There are very few cases where the second clitic is upstepped with respect to the first clitic, suggesting that Palenquero speakers are frequently employing the normal phrase-final downstep to effect the pitch differential between the two clitics. A typical example is (5) and Figure 9:

- (5) (*éle a sendá*) *tatá mí nú*
 3-s ASP be father POSS-1s NEG
 ‘he is not my father’

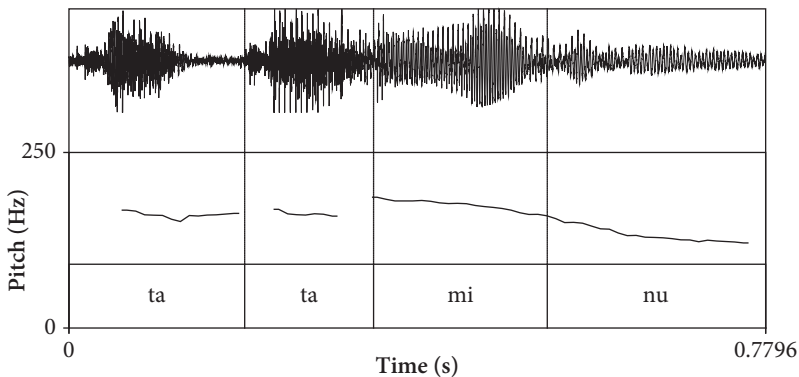


Figure 9. Palenquero *tatá mí nú* ‘not my father’

Two-clitic combinations not containing the negator *-nú* are relatively uncommon, the most frequent involving the combination of the 1-s. or 2-s pronouns *mí* or *bó* and the 3-s. pronoun *éle*; in these configurations, the first clitic is usually upstepped with respect to a preceding tonic syllable, while *éle* is downstepped, as in Figure 10, representing the phrase:

- (6) (*i tan*) *kitá bó éle*
 1-s FUT remove 2-s 3-s
 ‘I will take it off you’

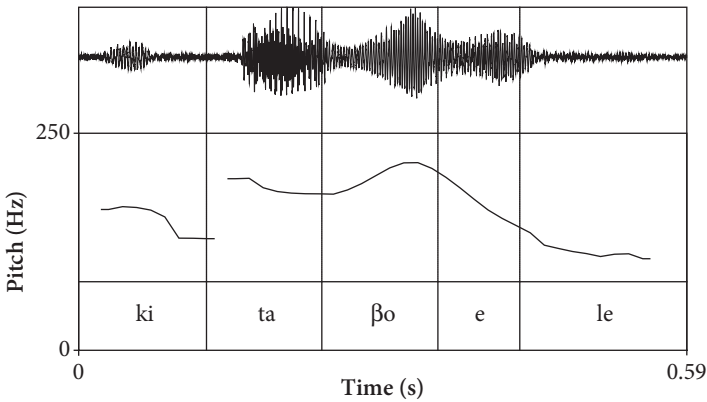


Figure 10. Palenquero *kitá bó éle* ‘to take it off you’

When two phrase-final object clitics are followed by the negator *nú*, final *nú* may be upstepped, as in Figure 11 (pronounced by a female speaker), representing:

- (7) (i) *tán vendé bó éle nú*
 1-s FUT sell 2-s 3-s NEG
 ‘I will not sell it to you’

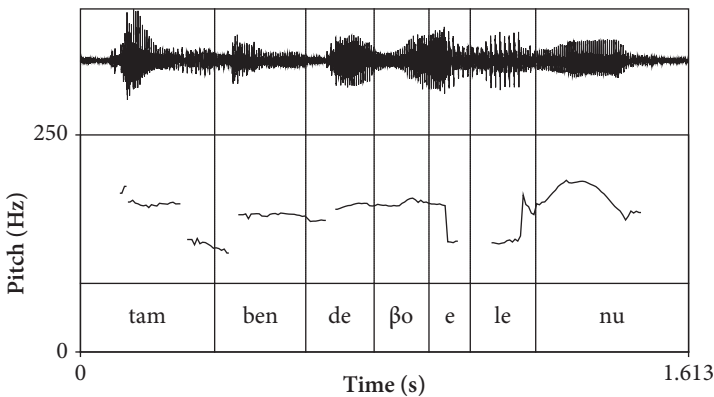


Figure 11. Palenquero *tán vendé bó éle nú* ‘will not sell it to you’

7. The OCP and a constraint-based analysis of Palenquero tonal polarity

The tonal differential correlated with the morphosyntactic status of the clitics suggests that these clitics are underlyingly specified with a H tone, whereas the high pitch normally associated with Palenquero tonic syllables in non-clitic words is a purely

phonetic realization, as proposed by Hualde and Schwegler (2008). This is similar to the polarity phenomena in Papiamentu as described by Römer (1977, 1980, 1983; also Rivera-Castillo 1998; Rivera-Castillo & Faraclas 2006; Rivera-Castillo & Pickering 2004; Remijsen & van Heuven 2005), in which prepositions unspecified for tone exhibit tonal polarity before syllables with underlying high or low tones.¹³

The robustness of tonal dissimilation involving Palenquero enclitics argues in favor of a distinctive H tone lexically associated with these items. This behavior bears the signature of the Obligatory Contour Principle (OCP), disallowing adjacent identical elements (McCarthy 1986; Yip 1988; Frisch, Pierrehumbert & Broe 2004).¹⁴ By extension, then, non-final tonic syllables could be analyzed as lexically specified for H, or alternatively, as having H associated through an implementation rule that interprets the stressed syllable as H. The latter is more likely, given the absence of minimal pairs based entirely on tone¹⁵ and also the observed variability of the pitch of phrase-internal stressed syllables. Using an Optimality Theory approach, the following constraints will be invoked:

OCP: This is the familiar Obligatory Contour Principle, disallowing adjacent identical phonological specifications. Here, as in Pulleyblank (2004), the OCP is assumed to be operative only in the combinations FINAL STRESSED SYLLABLE + CLITIC OR CLITIC + CLITIC.

MAX [H]: This constraint requires that an underlying H tone be preserved. As has been postulated for other African languages as well as for pitch accent languages (de Lacy 2002; Pulleyblank 2004), H tone is assumed to be more harmonic than other tones (in the case of Palenquero, a default and phonologically underspecified L tone). This constraint will only operate on clitics, phonologically specified as H. Other stressed vowels receive a H pitch through phonetic implementation rules, but do not contain this specification in their lexical representation.

13. Rivera-Castillo and Pickering (2004:262) also observe that Papiamentu syllables carrying both tonic stress and H tone are realized with a higher pitch than syllables only specified for H. If Palenquero phrase-final clitics are analyzed as carrying H, then the tendency to realize these clitics with a higher pitch than other tonic syllables is consistent with Papiamentu.

14. A homologous case occurs in Yoruba, where postverbal clitics routinely participate in phonologically-motivated tonal dissimilation with respect to the immediately preceding syllable. (Akinlabi & Liberman 2000; Pulleyblank 2004). In other circumstances, Yoruba does not exhibit OCP effects; the HOST+CLITIC situation is unique.

15. Except for a few isolated examples such as *ma ngómbe* “the cows” vs. *má ngómbe* “more cows.”

***HD/L:** This constraint disallows a L tone on the head of a prosodic foot (de Lacy 2002). This constraint deals with pitch, not a phonologically specified tone, and will therefore apply to the pitch accent associated with tonic vowels in non-clitic Palenquero words.

Given a combination such as *ablá nú* ‘not speak,’ the preferred choice with the tone of *nú* raised above that of the final vowel of *ablá* is selected as in Tableau 1. Rather than representing an H tone and a ‘Higher’ tone, upstepping of the clitic is graphically represented in the tableau with no written pitch accent, in effect delinking the phonetically implemented H tone resulting from the word-final pitch accent.

Tableau 1. Palenquero *ablá nu* ‘not to talk’

/ablá nú/ speak-NEG	OCP	MAX[H]	*HD/L
ablá nú	!* ¹⁶		
ablá nú			*
{ablá}nú		{!} ¹⁶	
abla nu		!* ¹⁶	*

The data in the corpus show that less frequently OCP violations are avoided through lowering the pitch of final *-nú* rather than the final stressed vowel of the preceding word. This shows that the ranges of the constraints MAX [H] and *HD/L partially overlap (e.g. Hayes 2000) in a fashion that quantitatively prefers the ranking MAX [H] >> *HD/L but which occasionally produces the opposite ranking.¹⁶

Two-clitic combinations following word-final tonic syllables are more complex, although the most common pattern across various grammatical configurations is UPSTEP + DOWNSTEP OR UPSTEP + DIP with final downstep. Whereas downstep of a tonic clitic is preferred in the final position of tonic vowel + two clitic combinations, downstep is a less preferred option when only a single clitic follows a word-final tonic syllable. This suggests that the immediate transition between a phonetically realized high tone on a tonic syllable and a phonologically H tone on an enclitic is the preferential environment for upstep, whereas downstep takes precedence in the second of two phonologically H tone clitics. An additional constraint is required to depict this dependence, and will be provisionally designated as CLITICUPSTEP. Tableau 2 shows the results for the combination *ngutá mí nú* ‘not please me.’

16. Hayes defines ‘strictness bands’ for each constraint, which can in principle overlap partially or totally. Each actually occurring token is defined by ‘selection points’ which are ‘the particular value of strictness taken on by a constraint on a given speaking occasion’ (Hayes 2000: 90). This approach explicitly allows for transitivity effects during speech production: ‘It can be seen that as long as the strictness bands of two constraints overlap, then both rankings of the two constraints will be available for the generation of outputs’ (Hayes 2000: 90).

Tableau 2. Palenquero *ngutá mí nú* ‘not please me’

/ngutá mí nú/ please-me-NEG	OCP	CL-UPSTEP	MAX[H]	*HD/L
ngutá mí nú	!***			
ngutá mí nu	!*			
ngutá mí nú		!*		
ngutá mí nu		!*		
nguta mí nú	!*			
nguta mí nu		!*		
☞ nguta mí nu			*	
nguta mí nú		!*		*

8. Against a floating-tone analysis

The fact that the Palenquero tonal shifts occur at clitic boundaries suggests that the tonal shift may perform a morphosyntactic function, such as has been proposed for high-tone raising in the Afro-European (English and Portuguese-derived) creole language Saramaccan by Good (2003, 2004); also Ham (1999), Kramer (2007). In Saramaccan, a raised H tone at either edge of a serial verb construction potentially enhances sentence processing: “The H_R morpheme [H tone at the right edge of a word: JML] fills the role of an indicator that there will be at least one other verb in the predicate, in effect “warning” that there is more to come in the sentence than might be expected. The H_L [H tone at the left edge of a word: JML] morpheme [...] can be understood as “reminding” the hearer that a serial verb phrase is being constructed” (Good 2003: 111). The morphemes in question are analyzed as floating H tones that attach to the appropriate edge of verbs in the serial constructions. The tonal shift between a Palenquero word-final tonic vowel and a following clitic could be similarly construed as a “warning” or “reminder” of morphosyntactic status, by means of a floating tone. Although the Palenquero data are not entirely inconsistent with such an approach, several facts militate against adopting this solution. First of all, although the term “clitic” is used in the present study, the morphosyntactic role of the negator *-nú* (which can occur at the end of any type of phrase irrespective of the internal syntactic configuration of the phrase) is very different than the possessive morphemes *-mí* and *-sí* (which attach directly to the possessed noun), and the object clitics *-mí*, *-bó*, *éle*, and *súto*, which attach directly to verbs. The syntactic role of *-nú* is similar to that of the sentential adverbs *má* “more” and *yá* “already, now,” both of which carry high pitch and neither of which undergoes the tonal shifts associated with *-nú*. Similarly, *-mí* and *-sí* are in effect postnominal adjectives, just like high-pitched *ngánde* “big” and *ngólo* “fat,” which do not participate in tonal shifts when following a noun ending in a tonic vowel. Object nouns beginning with tonic vowels also do not exhibit tonal dissimilation with respect to

a verb-final tonic vowel, as in *miná ngómbé* ‘see cow(s).’ Moreover, when occurring after word-final atonic vowels, negative, possessive, and object clitics simply emerge with high tone, with no effect on the preceding vowel, which might be expected if a floating H tone were present. Finally, the fact that phrase-final post-oxytonic clitics sometimes lower in pitch with no corresponding upstep of the preceding tonic vowel does not suggest the presence of a floating H tone. Despite these considerations, the possibility of floating tones in Palenquero deserves further investigation, since if distinctive H tones are present in the language, floating tones may develop, e.g. during fast-speech vowel reductions.

9. Palenquero tonal polarity: African leftover or innovation?

Remaining to be addressed is origin of the tonal behavior of Palenquero enclitics, in particular whether this represents a carryover from one or more African languages (or from an earlier stage of the creole language) or a more recent innovation. Hualde and Schwegler (2008) draw on data from older speakers, born in the early years of the 20th century, and taken as representative of the most traditional form of the Palenquero language. The present study also included some speakers from the same age range, but also speakers in their teens. All produced the tonal displacement of phrase-final clitics, but with some qualitative differences. Many of the examples of downstepped post-oxytonic phrase-final clitics were produced by the oldest speakers, speaking non-emphatically. For the same older speakers, upstepped negative *-nú* was most often found in emphatic speech, with either implicit or explicit contradiction, i.e. when the opposite response is presumed. Upstepped *-nú* would have an obvious pragmatic advantage, with the raised pitch highlighting the unexpected negative element at the end of a phrase which in absence of the negator could be construed with the opposite meaning. Younger speakers may be in the process of generalizing upstepped *-nú* to non-emphatic utterances, in effect creating a stable tonal distinction that is essentially independent of pragmatic criteria. The same would be true for possessive clitics and object pronouns, all of which are realized by younger speakers predominantly with an upstepped tone when occurring phrase-finally. Among older speakers the behavior of phrase-final possessive and object clitics is more variable, but there is some correlation between upstepped tone and emphatic or contrastive environments. These preliminary observations suggest that younger speakers may prefer an upstepped pitch for phrase-final clitics in all pragmatic contexts, representing an innovation from the traditional dialect, in which upstepped final high pitch is correlated with emphatic or contrastive contexts. Further research is required in order to clarify this conjecture.

The preceding considerations notwithstanding, a possible substrate contribution cannot be totally excluded, at least in the case of the phrase-final negator *-nú*.

The presence of numerous Kikongo lexical items in Palenquero suggests that Kikongo was once spoken in the emerging maroon community, although Hualde and Schwegler (2008:26) find no evidence of the complex Kikongo tonal sandhi phenomena (e.g. Odden 1994) in Palenquero. However Kikongo uses the negative particles *ke ... kó* or *ka ... kó*. The first element of the pair bears a low tone, as does Palenquero preverbal *no* in the instances where double negation is found, while Kikongo phrase-final *-kó* bears a high tone (Lumwamu 1973: 213–15; Odden 1994: 184). A calque of the Kikongo pattern – both morphosyntactically and tonally – cannot be ruled out, especially in view of Schwegler’s (1986:174; also 1983, 1988) analysis which suggests that double negative patterns eventually evolve to postverbal negation only. This pattern could have eroded partially as the proto-Palenquero preverbal negative gradually fell into disuse, ultimately resulting in the somewhat ambiguous use of *-nú* among the oldest Palenquero speakers: always high-toned when emphatic, but sometimes carrying a high tone when no emphatic or contrastive function can be plausibly proposed.¹⁷

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17. Kikongo pronominal possessives, while postposed as in Palenquero, exhibits a more complex morphophonemic behavior. Postposed pronouns take a monosyllabic class prefix, some of which carry a high tone, while others are low-toned (e.g. Lumwamu 1973: 133–136). It is therefore less likely that the tendency to realize Palenquero phrase-final *-mi* and *-si* with upstepped high tones can be directly attributed to a carryover from Kikongo.

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