# A Grammar of Pichi

Kofi Yakpo



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Kofi Yakpo



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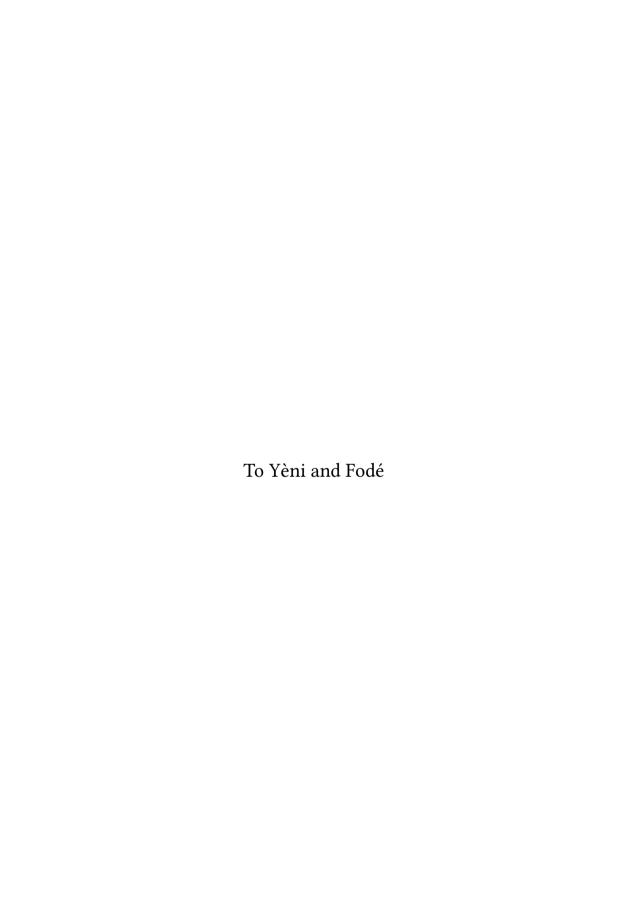
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# Symbols and abbreviations

-	morpheme boundary	DEF	definite article
=	clitic morpheme boundary	EMP	emphatic
!	directive clause; vocative	F	feminine gender
*	ungrammatical example	FN	first name
,	continuative intonation	FOC	focus marker and identity
	and pause		copula
	utterance-final:	Н	high tone(d syllable)
	declarative intonation	HAB	habitual marker
	word-medial: morpheme	IDEO	ideophone
	boundary in	INDF	indefinite
	derived compound	INDP	independent/emphatic
()	untranscribed part of		pronoun
	utterance	INTJ	interjection
[]	explanation of translated	INTR	intransitive
	elements	IPFV	imperfective aspect marker
/	speech interruption	L	low tone(d syllable)
?	final: question intonation	L.H	low-high tone sequence
?	initial: grammaticality		over two adjacent syllables
	dubious	LH	rising contour tone over
[á]	IPA transcription		same syllable
/a/	phoneme	LN	last name
<a>&gt;</a>	grapheme	LOC	locative preposition
á	high tone diacritic	LT	lexical tone
à	low tone diacritic	MVC	multiverb construction
%	boundary tone	n.a.	not applicable
1, 2, 3	first, second, third person	NAME	personal name
ABL	abilitive mood marker	NEG	negative/negator
ADV	adverbial(ising suffix)	NP	noun phrase
BE	identity copula	NSPC	non-specific
BE.LOC	locative-existential copula	овј	object (case)
BT	boundary tone	OBL	obligative mood marker
CPD	tone deletion in	PFV	narrative perfective marker
	compounding	PL	plural(iser)

# Symbols and abbreviations

		REP	repeated word in repetition
DI ACE	nlaca nama		subject (case)
PLACE	place name	SBJ	, ,
POSS	possessive (case)	SBJV	subjunctive marker
POT	potential mood marker	SG	singular
PP	prepositional phrase	SKT	"suck teeth"
PREP	associative preposition	SP	sentence particle
PRF	perfect tense-aspect	SPEC	specific
PST	past tense marker	SUB	subordinator
Q	question particle	SVC	serial verb construction
QNT	quantifier	TMA	tense-mood-aspect
QUOT	quotative marker	TR	transitive
RED	reduplicant in	v1	initial verb in MVC
	reduplication	v2	second verb in MVC
		VP	verb phrase

Pichi is a tone language. In previous work, I posited that Pichi has a mixed prosodic system in which individual words are either specified for pitch accent or tone (Yakpo 2009a,c), similar to systems claimed for other European-lexifier creoles of the Atlantic basin (e.g. Rountree 1972; Alleyne 1980; Devonish 1989; 2002; Good 2004; Rivera-Castillo 1998; Rivera Castillo & Faraclas 2006). In subsequent work on Pichi and comparative work on the prosodic systems of other Afro-European contact varieties (e.g. Bordal Steien & Yakpo 2018), I found no evidence that the Pichi lexicon is stratified and that "tonal" and "pitch-accented" words differ with respect to their pitch-related properties or the tonal processes described in this chapter. I therefore treat the prosodic system of Pichi as a tonal system tout court. In the following, the term "tone class" designates the various fixed pitch patterns that Pichi words fall into.

The pitch analyses in this chapter were done from connected speech and from words pronounced in isolation using the Praat 5.0 software. The analyses are presented in figures containing a pitch trace and a syllabic segmentation of the utterance. The transcription employed for rendering syllabic segments is orthographic. Nonetheless, phonetic tones are marked on each syllable in the figures for easier recognition.

The approximate pitch values of each syllable are given in Hertz (Hz) on the vertical axis. The horizontal axis provides the time elapsed ( $1.0 = 1 \, \text{second}$ ). In the examples in this chapter, the second line contains a phonetic tonal notation of the Pichi utterance above. When a tonal process is described, the relevant Pichi sentence is sometimes repeated after the arrow ( $\rightarrow$ ). The second line of the Pichi utterance following the arrow then provides phonetic tone, i.e. the actual pronunciation of the sentence after the tonal process under discussion has taken place. For clarity of presentation, text codes have been omitted with examples in this chapter.

# 3.1 Characteristics of tone

Pichi has two distinctive tonemes, namely a High (H) and a Low (L) tone. The language employs lexical and morphological tone, and there is an unevenly distributed number of tone classes. Boundary tones at the right edge of utterances fulfil the pragmatic and grammatical functions of intonation (cf. §3.4).

The tone-bearing unit in Pichi is the syllable. Vowels and sonorants serve as tone-bearing segments. Evidence comes from the interaction of lexical tones and boundary tones over utterance-final syllables. In utterance-final position, a boundary tone will associate with the final tone-bearing unit of the utterance. The sonorants /n/, /m/, /l/, and /r/ may bear phonetic tone in Pichi. Hence, an utterance-final /n/, for example, may carry a boundary tone.

Consider the citation form of  $t\acute{e}n$  'time' in Figure 3.1. Here the declarative L% (L boundary tone), which follows the lexical H tone over  $/\acute{e}/$ , is spread out over the vowel and the final /n/. Sonorants like /n/ do not, however, bear lexical tone by themselves. Rather, they always bear the tone of the left-adjacent, i.e. preceding, vowel. In contrast, with non-sonorant final segments, tone is only borne by the preceding vowel. The final obstruent in  $t\acute{s}k$  'talk' in Figure 3.2 cannot bear tone, so the utterance-final declarative L% is borne by the vowel alone.

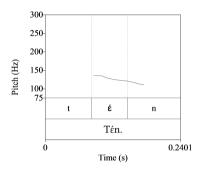


Figure 3.1 Citation form of  $t \acute{\epsilon} n$ 

(1)  $T \epsilon n$ .

HL%

'Time.'

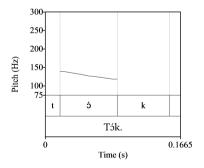


Figure 3.2 Citation form of *t5k* 

(2) *T5k.* HL% 'Talk.' When the utterance-final word is a light (vowel-final) monosyllable, the vowel may be lengthened, sometimes up to two beats. I assume that the lengthening of light monosyllables is caused by the metric preference of Pichi for footed tonal domains within the word boundary. Heavy monosyllables with a final non-tone-bearing segment like  $t \pm \delta k$  'talk' block the creation of footed domains in utterance-final position. But light syllables leave room for this option. The vowels of the light monosyllables in Figure 3.3 and Figure 3.4 have been lengthened in order to accommodate the HL contour consisting of the lexical H tone of the monosyllable and the declarative L% boundary tone.

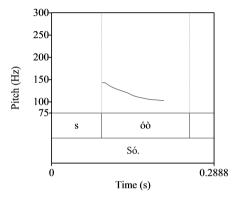


Figure 3.3 Citation form of só

(3) *Só.*HL%
'Like that.'

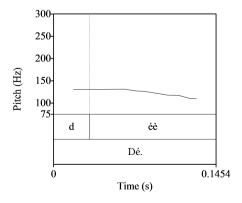


Figure 3.4 Citation form of dé

(4) **Dé**.

HL%

'There.'

#### 3.1.1 Distinctive tones

Pichi contrasts two level tones, a high tone (H) and a low tone (L). H tone is the more active tone in tonal processes: H rather than L participates in tone spreading and is more active in pitch register expansion. Contour tones do not constitute tonemes in their own right. Instead, they result from the succession of a lexical tone and a polar floating tone over a single tone-bearing unit (cf. §3.2.2).

Figure 3.5 and Figure 3.6 present the pitch trace and segmentation of the two words *hasis* /H.L/ 'ashes' and *dɔtí* /L.H/ 'be dirty' said in isolation. The two words *hasis* and *dɔtí* 

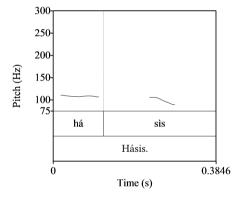


Figure 3.5 H.L pattern

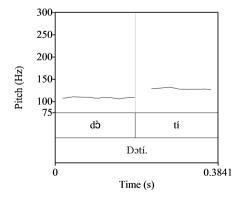


Figure 3.6 L.H pattern

represent the tone patterns of the two most frequent tone classes of Pichi (cf. Table 3.1). The mean pitch on the L-toned syllable of dsti is 109.17 Hz, that of the H-toned syllable 129.27 Hz. Hence, the difference in pitch between the H- and L-level tones amounts to 20.1 Hz. With  $h\dot{a}sis$ , the mean pitch of the H tone is 108.59 Hz, while the mean L tone stands at 99.72 Hz. The difference in mean pitch between H and L therefore stands at 8.87 Hz. This difference is just about half of that between L and H in dsti.

Hertz	dətí	hásis
Mean Hz of H	129.27	108.59
Mean Hz of L	109.17	99.72
Highest Hz of H	132.20	110.33
Lowest Hz of H	127.26	107.35
Highest Hz of L	110.78	105.83
Lowest Hz of L	107.47	93.50

Table 3.1 Pitch values

The relatively small difference in mean pitch between the syllables of *hásis* arises due to the fact that the H tone over the first syllable is carried over into the first half of the following L-toned syllable. In contrast, the L tone of the first syllable of *dɔtí* shows no signs of rightward spreading.

Words may bear a single or more H or L tones. Compare the pitch traces of the utterance-final tonal words *nyóní* 'ant' and *Bata* 'Fang' in the collocations *lɛk nyóní* 'like ants' and *tók Bata* 'speak Fang' in Figure 3.7 and Figure 3.8.

Equatoguinean Spanish has been analysed as a tone language, in which the lexical stress characteristic of Spanish has been converted to lexical tone due to contact with

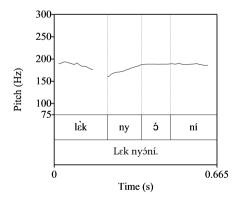


Figure 3.7 H.H pattern

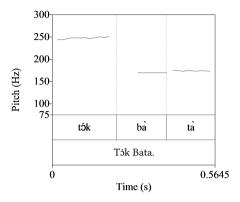


Figure 3.8 L.L pattern

the tone languages of Equatorial Guinea (Lipski 2015; Bordal Steien & Yakpo 2018). Words codeswitched or borrowed from Equatoguinean Spanish are therefore specified for lexical tone just like Pichi words.

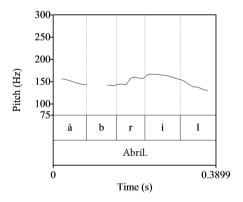


Figure 3.9 Pitch over Spanish abril

Figure 3.9 and Figure 3.10 feature the utterance-final Spanish words *abril* 'April' and *nigeriano* 'Nigerian', the latter in the collocation *na nigeriano* 'FOC Nigerian' = 'He is a Nigerian'. The pitch configurations over these two words conforms to those of Pichi words with a word-final (Figure 3.9) and a penultimate (Figure 3.10) H tone, respectively.

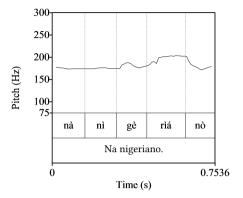


Figure 3.10 Pitch over Spanish nigeriano

# 3.1.2 Lexical and morphological tone

A small number of monosyllabic roots are distinguished from each other by pitch alone. The list in (5) contains most words in the corpus to which this applies. In conformity with a general pattern, (more) functional words are L-toned, while the corresponding content words are H-toned.

(5)	L tone		H tone	
	bay	'by'	báy	'buy'
	bət	'but'	bśt	'hit with the head'
	de	'IPFV'	dé	'day, there'
	di	'DEF'	dí	'this'
	$l\varepsilon k$	ʻlike'	lék	'(to) like'
	so	'so'	só	'like this, sew, show'
	wet	'with'	wét	'wait'

However, there are also numerous homophones, which can neither be distinguished segmentally, nor by their pitch properties. The following list contains most homophones in the corpus.

#### (6) Homophones dé 'day, there, BE.LOC' líf 'leaf. live' '3sg.овј, and' 'loose, louse' lśs an 'deer, expensive' 'FOC, LOC' día na 'beer, bear' 'know, neg' bia nó bló 'blow, relax' 'news, use' nyús fál 'fowl, to rain' pía 'avocado, pair' 'first, force' fźs ráyt 'right, write'

fĭl	'feel, field'	rés	'rest, rice'
hát	'heart, to hurt'	rón	'run, be wrong'
hía	'hear, here, year, hair'	só	'sew, show'
hól	'hole, hold, whole'	sźt	'shirt, short'
(h)5t	'extinguish, hot'	tón	'town, turn'
klós	'clothing'	tú	'too (much), two'
kós	'cost, (to) insult'	wé	'way, sub'
lέf	'leave, left'	wích	'bewitch, which'

Morphological tone is employed in the personal pronoun paradigm in order to distinguish morphologically different forms of the same lexeme from one another (e.g. mi '1sg.poss' – mi '1sg.indp',  $d\varepsilon n$  '3pl' –  $d\varepsilon n$  '3pl.indp'). Pichi also features a morphological tonal process (cf. §3.2.4). In addition, there are three items that derive from a common etymon and are distinguished by pitch alone:  $d\varepsilon$  '1pfv' –  $d\varepsilon$  'Beloc', di 'Def' – di 'this', go 'pot' – go 'go'). All low-toned monosyllabic roots are words with more or less grammatical functions, such as personal pronouns (e.g. a '1sg.sbj'), determiners (e.g. di 'Def'), TMA markers (e.g. bin 'pst', kin 'HAB'), clause linkers (e.g.  $\varepsilon f$  'if'), or prepositions (e.g. pan 'on'). Low-toned function words, except dependent personal pronouns, are listed in (7).

Low-toned function words				
di	'DEF'	$l \varepsilon k (arepsilon)$	ʻlike'	
sən	'some, a'	na	'LOC, FOC'	
bin	'PST'	pan	'on'	
de	'IPFV'	to	'to'	
go	'POT'	wet	'with'	
kin	'HAB'	an	'and'	
məs	'OBL'	Э	'or'	
bay	'by'	$\varepsilon f(\varepsilon)$	'if'	
fэ	'PREP'	bət	'but'	
fron	'from'	so	'so'	
	di son bin de go kin mos bay fo	di       'DEF'         son       'some, a'         bin       'PST'         de       'IPFV'         go       'POT'         kin       'HAB'         mos       'OBL'         bay       'by'         fo       'PREP'	di'DEF' $l\varepsilon k(\varepsilon)$ sɔn'some, a'nabin'PST'pande'IPFV'togo'POT'wetkin'HAB'anmɔs'OBL'ɔbay'by' $\varepsilon f(\varepsilon)$ fɔ'PREP'bɔt	

There are, however, limits to this pattern of functional differenciation by tone. The monosyllabic roots  $d\acute{s}n$  'down, done, PRF',  $k\acute{a}n$  'come, PFV',  $m\acute{e}k$  'make, SBJV',  $s\acute{e}$  'say, QUOT', and  $w\acute{a}n$  'one, a' also have a more grammatical meaning besides their lexical one. Yet, their different functions are covered by segmentally and suprasegmentally identical forms.

Pichi also exhibits one morphological tonal process. In compounds and morphological reduplication, the H tones over all non-final components are deleted and replaced by an L tone (cf. §3.2.4).

#### 3.1.3 Tone classes

About 95 per cent of roots contained in my lexical data-base carry a single H tone over their only, penultimate, or final syllable. Other syllables in these words are L-toned. The remaining 5 per cent of roots feature diverse tone patterns with more than one H, or no H tone. Many (e.g. nyóní 'ant' < Mende yóní 'red ant') but not all (e.g. ápás 'after' < English 'half-past') of these words originate from African languages or are monosyllabic function words with an L tone over their only syllable (cf. 7), while words with a single H tone are mostly English-derived. This circumstance speaks to the fact that stress-to-tone conversion took place in the formation of the proto-language of Pichi, as in many other Afro-European creole and non-creole contact languages (e.g. Berry 1970; Criper 1971; Criper-Friedman 1990; Alleyne 1980; Gussenhoven & Udofot 2010; Bordal Steien 2015).

Table 3.2 contains a listing of the tone classes of the simplex roots contained in the lexical data base of the corpus (cf. Faraclas 1996; Good 2004, for pitch classes in Nigerian Pidgin and Saramaccan). A few examples are provided for each tone class. Not included in this table are ideophones, which feature numerous idiosyncratic tonal patterns and often involve lexicalised reduplication and triplication (cf. §4.5.3 and §12.1 for a detailed treatment).

Members of the monosyllabic L-toned tone class only contribute a total of nineteen roots and 2.5 per cent of the total in terms of individual entries and are hence listed as belonging to a minor tone class. The members of this class are, however, mostly function words that constitute the backbone of the grammatical system of Pichi: the personal pronouns a 'Isg.sbj', e '3sg.sbj', =an '3sg.obj'; the TMA markers de 'IPFV', go 'POT', bin 'PST'; the preposition fo 'PREP' and the homonymous forms na 'Loc' and na 'Foc' outrank any other root of the language in a frequency count. This makes this tone class perceptually as salient as the H and H.L tone classes. In contrast, the members of the other minor tone classes are each composed of relatively few lexical words, which together make up 6 per cent of roots in the corpus.

Table 3.2 points to additional characteristics of the corpus. With 54.1 per cent, about half the roots are H-toned monosyllables. Another 25.2 per cent are polysyllabic roots with an H tone over the penultimate syllable (of which a mere 1.8 per cent have more than two syllables). Together, these two groups constitute an overwhelming majority of 79.3 per cent of all roots. An additional 15.3 per cent bear an H tone over the final syllable. Most roots in the corpus, namely 94.6 per cent, therefore carry an H tone over the only syllable, the penultimate syllable, or the final syllable.

It should also be mentioned that many of the Spanish items that find their way into codemixed Pichi sentences bear a penultimate H tone in accordance with their original Spanish penultimate syllable stress. This holds in particular for the invariant 3sg present insertion form of the Spanish verb (cf. §13.2.2). Spanish-origin items therefore align with the majority tone classes of Pichi.

Table 3.2 Distribution of tone classes over types

Tone classes	Examples	No. of items	% of total
Major			
Н	báy 'buy', áks 'ask', kér 'carry, take'	413	54.1
H.L	dróngo 'be dead drunk', kómpin 'friend'	178	23.3
L.H	bɔkú 'be much', sabí 'know', watá 'water'	107	14.0
Subtotal		717	91.5
Minor			
L	de 'IPFV', go 'POT', son 'some, a', fo 'PREP'	19	2.5
L.H.L	əspítul 'hospital', wahála 'trouble'	14	1.8
H.H	<i>nyɔ́ni</i> 'ant', <i>sóté</i> 'until', <i>sósó</i> 'only', <i>ápás</i> 'after'	11	1.4
L.L.H	əndastán 'understand', prəpatí 'property'	10	1.3
H.L.L	kápinta 'carpenter', méresin 'medicine'	6	0.8
L.H.H	okóbó 'impotent man'	3	0.4
L.L	Bata 'PLACE', jomba 'lover'	2	0.3
Subtotal		46	8.5
Total		763	100.0

# 3.2 Tonal processes

Pitch changes conditioned by various factors may take place within a tonal domain. A tonal domain may be confined to the word, cut across a word boundary in specific phonosyntactic phrases, and involve a whole clause or sentence. The tonal processes attested in the data are described in §3.2.1 to §3.2.4. A summary of these processes is given in Table 3.3.

# 3.2.1 Tone spreading

H tones may spread to right-adjacent L-toned syllables within the word boundary. The H tone over the first syllable of *prómis* 'promise' in Figure 3.11 spreads to the second syllable.

(8) Yu bin prɔ́mis mí mɔni.  $\rightarrow$  Yu bin prɔ́mis mí mɔni. L L H.L H L.H L L H.H H L.H 2SG PST promise 1SG.INDP money 'You promised me money.'

Table 3.3 Tonal processes

Process	Description	Conditioning factor	Tonal domain
Spreading	H spreads rightwards to L-toned syllable(s)	H spreads rightwards to L-toned syllables	(1) Word
Floating	H is set afloat and docks onto a right-adjacent L-toned segment to form an HL contour tone	Vowel deletion and vowel merging	Adjacent function words
Declination	H tones are progressively lowered across the utterance	<ul><li>(1) Downdrift: an H is lowered by a preceding L</li><li>(2) Downstep: an H is lower in pitch than a left-adjacent H</li></ul>	Clause, sentence
Deletion	The lexical tone is deleted and realised as L	<ul><li>(1) Derivation of compounds and reduplicants</li><li>(2) Question boundary tone overrides lexical tone</li></ul>	(1) Phonological word (2) Word

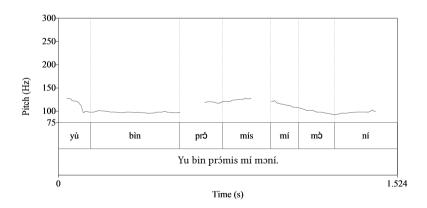


Figure 3.11 H tone spreading

An environment that is particularly conducive to rightward tone spreading is when the L-toned syllable of a bisyllabic word with an H.L. pattern is hemmed in by the preceding H tone and the H tone of a following object. In Figure 3.12, the L-toned syllable of finis 'finish' is raised in pitch approximately to the level of the following object skúl 'school'. The pitch trace in Figure 3.13 exemplifies the same process with vómit 'vomit' and the following object chóp 'food.

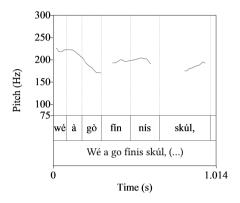


Figure 3.12 H tone spreading

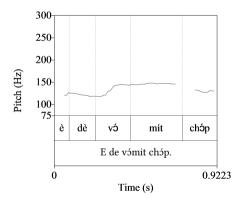


Figure 3.13 H tone spreading

(10) E de vómit chóp. → E de vómít chóp.

L L H.L H L L H.H H

3SG.SBJ IPFV vomit food

'He is vomiting (the) food.'

A second phono-syntactic environment that favours rightward H tone spreading is a modifier-noun phrase. The L-toned syllable of a bisyllabic property item in prenominal position and with an H.L pattern may be raised to H if it is immediately followed by a noun with an initial (or only) H tone. An example for this process is provided in (16) further below. In the NP, the L-toned syllable of the modifier fulls 'foolish' is raised to an H tone because it is followed by the H-toned noun man 'man'.

### 3.2.2 Floating

Pichi makes extensive use of floating boundary tones for the purpose of intonation. Aside from that, a lexical tone may be set afloat when two adjoining vowels merge or one of two adjoining vowels is deleted. Tone floating is particularly likely to occur in the contact zone between an H-toned high-frequency function word and a following L-toned vowel. In Figure 3.14, the final consonant /k/ of  $m\acute{e}k$  'sBJv' is deleted. This creates a vowel hiatus, which in turn leads to the deletion of the first, higher /e/ of  $m\acute{e}k$  in favour of the second, lower vowel  $/\grave{a}/$ . The rising-falling contour over  $m\^{a}$  ( $m\acute{e}k=\grave{a}$ ) is clearly visible.

In Figure 3.15, the final segment of  $h\acute{a}w$  'how' is deleted and the lexical H tone is set afloat. The vowel merger between /a/ and the following low-toned dependent personal pronoun e creates an HL contour tone.

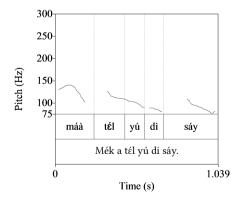


Figure 3.14 Vowel deletion sets tone afloat

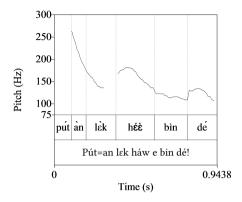


Figure 3.15 Vowel merger sets tone afloat

- (11)  $M\acute{e}k$  a  $t\acute{e}l$   $y\acute{u}$  di  $s\acute{a}y$ .  $\longrightarrow$   $M\^{a}$   $t\acute{e}l$   $y\acute{u}$  di  $s\acute{a}y$ .

  H L H H L H H L H

  SBJV 1SG.SBJ tell 2SG.INDP DEF side

  'Let me tell you the place.'

# 3.2.3 Downdrift and downstep

Downdrift and downstep contribute to a general downward cline of pitch in utterances. An utterance normally begins with a high pitch onset and declines progressively with every lexical tone. Downdrift (indicated by  $\downarrow$ H) causes an H to be lowered by a preceding L tone as in Figure 3.16. The overall effect of downdrift is visible by the roughly equivalent pitch over the initial L-toned personal pronoun a '1sg.sbj' and the final H-toned noun hós 'house'.

(13) A mítp=an yéstadé na in hós. L H.H=L  $\downarrow$ H.L. $\downarrow$ H L L  $\downarrow$ H 1sg.sBJ meet=3sg yesterday Loc 3sg.poss house 'I met him yesterday in his house.'

The second phenomenon involving declination is downstep (indicated by –H). In a series of adjacent H tones, each tone may be lowered successively in relation to the preceding one. Downstep is exemplified by the two successive homophones in Figure 3.17 and the iteration in Figure 3.18. We also find downdrift in both examples.

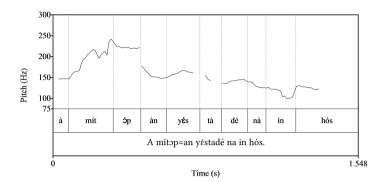


Figure 3.16 Downdrift

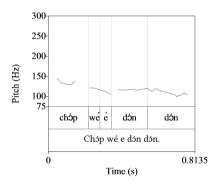


Figure 3.17 Downstep

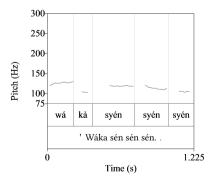


Figure 3.18 Downstep

- (14) Chớp wé e dón dón. H -H L ↓H -H food SUB 3SG.SBJ PRF done 'Food that is done.'
- (15) Wáka sén sén sén. H.L ↓H -H -H walk same REP REP 'Walk exactly in one line.'

#### 3.2.4 Deletion

Tone deletion occurs in two contexts. In compounds (including reduplications), the lexical H tone over the first component is deleted (also see Yakpo 2012a). The syllable whose tone has been deleted becomes L-toned. The second component retains its original tone pattern. Tone deletion therefore forms an intrinsic part of a derivational process in Pichi (cf. §4.3). The second context in which tone deletion occurs is when a boundary tone overrides the utterance-final lexical tone of a word (cf. §3.4.4).

Figure 3.19 presents the pitch trace of an NP headed by the noun  $m\acute{a}n$  'man'. The noun is modified prenominally by the verb  $f\acute{u}lis$  '(be) foolish', which has an H.L tone pattern. The pitch of the utterance-final H tone over  $m\acute{a}n$  stands at roughly the same level (albeit slightly downstepped and falling due to declarative intonation) as that of the preceding H tones over the first and second syllables of  $f\acute{u}lis$ . Note that the second, lexically L-toned syllable of  $f\acute{u}lis$  bears a phonetic H tone due to tonal plateauing (cf. §3.2.1).

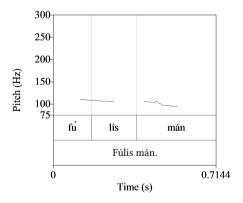


Figure 3.19 Simplex noun

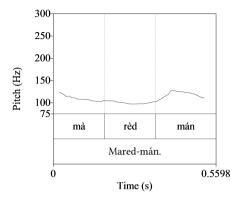


Figure 3.20 Compound noun

- (16) Fúlis mán.
  H.H H
  foolish man
  'Foolish man.'
- (17) Mared-mán.

  L.L-H

  marry.CPD-man

  'Married man.'

In contrast, the pitch trace in Figure 3.20 above exemplifies tone deletion. The head noun *mán* 'man' is also modified by a verb with an H.L pattern, namely *máred* 'marry, be married'. However, *máred* and *mán* form a single phonological word, the compound noun *mared-mán* 'married man'. The H tone over the first syllable of *máred* has been deleted in the process and replaced by L (the downward cline over the first syllable is caused by a pitch reset at the beginning of the utterance). At the same time, *mán*, the final component of the compound, retains its H tone (which falls slightly due to its utterancefinal position).

Reduplicated verbs exhibit the same suprasegmental characteristics as compound nouns. The pitch trace of the reduplicated (and sentence-medial) monosyllabic  $r\acute{n}$  'run' in Figure 3.21 shows an L.H pitch configuration over the two identical components. This parallels the pitch trace over the compound  $wach-m\acute{n}$  'watchman' above. Reduplication therefore involves the same derivational process as compounding. The lexical H-tone over the first component is deleted and replaced by an L tone.

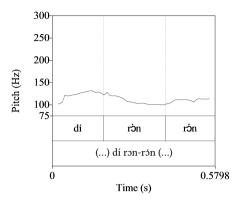


Figure 3.21 Monosyllabic reduplicated verb

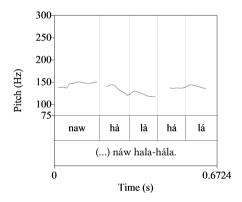


Figure 3.22 Bisyllabic reduplicated verb

- (18) (...) dí rən-rə́n (...)

  H L-H

  this red.cpd-run

  '(...) this running around (...)'
- (19) (...) náw hala-hála.

  H L.L-H.H

  now RED.CPD-shout

  '(...) now, (it was) constant shouting.'

## 3.2.5 Pitch range expansion

In Pichi, certain phonetic features may increase the prominence of a (series of) syllable(s). Segments may be lengthened or may be pronounced with increased volume, they may be pronounced with a breathy or creaky voice, and the speech rate may be slowed down or accelerated for stylistic effect. But there is no stress in Pichi in the sense of an automatic, metrically conditioned culmination of phonetic features as in intonation-only languages. Nor does Pichi make use of intonational melodies spanning the entire (or parts of the) utterance for the realisation of pragmatic functions, since these would override the lexical tone of individual words. Instead, pitch range expansion, and an extra-high tone in particular, are exploited to signal focus and emphasis. Focused or emphasised constituents may bear a higher than usual pitch, an extra-high tone on their H-toned syllable(s). The extra-high tone may spread rightwards onto following L-toned syllables until the word boundary is reached (cf. §3.2.1).

Figure 3.23 features the clefted verb  $dr\acute{n}go$  'be dead drunk'. In the pitch trace, the emphatic character of the predicate cleft construction is evident in two ways. The H-toned syllable of  $dr\acute{n}go$  bears an extra-high tone, and the segment /r/ is lengthened for emphasis. The utterance in Figure 3.23 shades off into a chuckle from the fifth syllable onwards, which produces a wavering pitch trace:

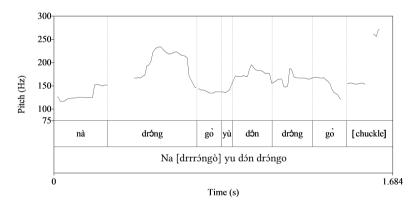


Figure 3.23 Predicate cleft and extra-high tone for emphasis

(20) Na [drrróngò] yu dón dróngo.

L +H.L L H H.L

FOC be.dead.drunk 2sg prf be.dead.drunk

'You're absolutely dead drunk.'

Elements that fulfil central functions in pragmatically marked contexts are particularly common with extra-high tone, e.g. question elements like  $h\acute{a}w$  'how',  $w\acute{e}tin$  'what',  $u\acute{e}tin$  'who',  $u\acute{e}tin$  'what', the negator  $n\acute{o}$ , modifications of degree via repetition like  $b\acute{i}g$   $b\acute{i}g$ 

#### 3 Suprasegmental phonology

'very big', and the degree adverb  $b\acute{a}d$  'bad, extremely'. Both components of the repetition  $b\acute{i}g$   $b\acute{i}g$  'be very big' in Figure 3.24 carry an extra-high tone. There is no sign of downstep within the reduplicated sequence:

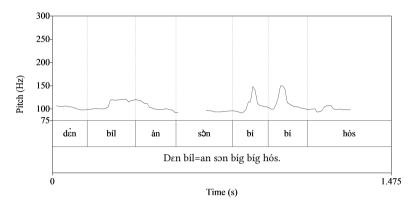


Figure 3.24 Extra-high tone

(21) Den bíl=an sən bíg bíg hós.

H H=L L +H +H H

3PL build=3sg.obj some big REP house

'They built him a huge house.'

Entire clauses or sentences may also be placed under focus by (a series of) extra-high tones, which thereby (cumulatively) fulfil(s) the same function as emphatic intonation covered in §3.4.2 further below. There are two principal means of emphasising sentences, which are often used together. The last H tone of the utterance may be raised to an extrahigh pitch as in Figure 3.25. Here the H tone of the utterance-final word  $m\acute{a}n$  'man' has been raised to an extra-high level. The sentence nonetheless bears declarative intonation. The word  $m\acute{a}n$  still exhibits the utterance-final fall characteristic of declarative intonation (cf. §3.4.1) but at a significantly higher pitch level than in a non-emphatic context (22).

(22) Yu húman de mék jəmba wet mi **mán**.

L H.L L H L.L L L +HL%

2sg woman ipfv make lover with 1sg.poss man.

'Your wife makes love with my husband.'

Secondly, the use of an utterance-final extra-high tone is often accompanied by "pitch range expansion" (Yip 2002: 276). Alternatively, pitch range expansion may be accompanied by the use of the emphatic boundary tone instead of the utterance-final extra-high tone (cf. §3.4.2). During pitch range expansion, the pitch range between H and L tones

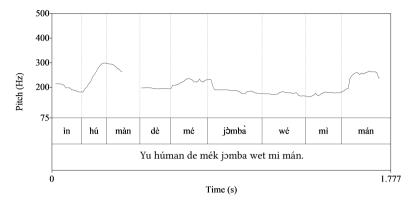


Figure 3.25 Utterance-final extra-high tone for emphasis

is widened throughout the entire utterance by pronouncing H tones with a higher-thanusual pitch and, optionally, L tones with a lower-than-usual pitch. This creates a strongly undulating pitch contour over the entire utterance.

Figure 3.26 graphically depicts the dramatic rises and falls that may characterise pitch range expansion. The female speaker begins with an L-toned na at 190 Hz, rises to 490 Hz with H-toned so, then falls to an all-time low with den at 145 Hz, until the pitch range gradually evens out towards the end of the utterance (23).

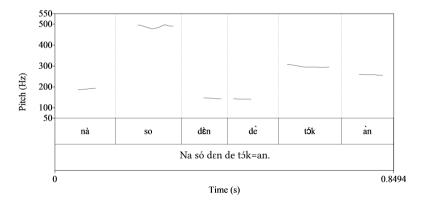


Figure 3.26 Pitch range expansion for emphasis

(23) Na só den de t3k=an.

L +H +L +L +H=LH%

FOC like.that 3PL IPFV talk=3sg.OBJ

'That's how they say it.'

## 3.3 Tone-conditioned suppletive allomorphy

Pichi features a tone-conditioned suppletive allomorphy (TCSA) of the two pronominal variants =an '3sg.obj' and in '3sg.indp', which may both instantiate (direct and indirect) object case (cf. §5.4.1 for an overview of the inflection of personal pronouns). Suppletive allomorphy is conditioned by a tonotactic prohibition of immediately adjoining or "string-adjacent" (Suzuki 1998) identical tones (cf. also §2.6.2.2). Suppletive allomorphy therefore relies on the conditioning environment of vowel hiatus. Further, there are no phonemic long vowels in Pichi. String-adjacent vowels within the same lexical word are always heterosyllabic, and in addition, invariably carry polar tones (cf. §2.6.2.2). TCSA can therefore only be triggered when the enclisis of =an '3sg.obj' creates a phonological word. A head with an L-toned vowel-final syllable may therefore not take the vowel-initial L-toned clitic object pronoun =an. Instead, the independent (emphatic) personal pronoun =an in the phonological class of the host is summarised in Table 3.4.

Host class	Allomorph	Example
C/#	=an	[márè <b>d</b> =àn]
Ý/#	=an	[tròw <b>é</b> =àn]
Ù/#	ín	[fíbà ín]

Table 3.4 Distribution of suppletive object pronouns

There is no tonotactic restriction on the enclisis of =an with consonant-final hosts like  $m\'{a}red$  'marry', since the condition of tonal string-adjacency is not met (24).

(24) E go máred=an. 3sg.sbj pot marry=3sg.obj 'S/he'll marry him/her.'

There are no restrictions on the enclisis of =an with vowel-final hosts with a word-final H-tone like  $trow\acute{e}$  'throw, pour away', since the vowel sequence across the morpheme boundary bears a polar [H.L] tone:

(25) A fít ték di wɔtá a trowé=an. 1sg.sbj can take def water 1sg.sbj throw=3sg.obj 'I can take the water (and) pour it away.' If the word-final vowel of the host is L-toned, as with fiba 'resemble', the pitch configuration after enclisis of =an across the clitic boundary would be [L.L]. This is an illicit pitch configuration over string-adjacent vowels in Pichi phonological words and triggers the use of suppletive in '3sg.INDP'. Compare the following two examples:

- (26) \* Yu fíba=an bɔkú. 2sg resemble=3sg.obj a.lot Intended: 'You resemble him/her a lot.'
- (27) Yu fíba ín bóku. 2sg resemble 3sg.INDP a.lot 'You resemble him/her a lot.'

The class of words that features the allomorph *in* as an object pronoun also includes verbs of Spanish origin. Spanish verbs are always inserted into Pichi clauses in the Spanish 3sG present tense form, irrespective of their tense-aspect (cf. §13.2.2). Examples follow with the verbs *firma* 'sign' (< Span. *firmar*) from the Spanish 1<sup>st</sup> conjugation class, and *sube* 'go/bring up' (< Span. *subir*) from the 3<sup>rd</sup> conjugation class:

- (28) Den nó **fírma ín** yét.

  3PL NEG sign 3SG.INDP yet

  'They haven't signed it yet.'
- (29) Dán mán go súbe ín.
  that man POT bring.up 3sg.INDP
  'That man will bring it [the suitcase] up.'

Pichi has a second mechanism next to tone-conditioned suppletive allomorphy to ensure that the requirement of a string-adjacent polar [H.L] tone is not breached. A buffer consonant /r/ can be inserted at the clitic boundary. Epenthesis forestalls the crossmorphemic vowel hiatus and makes the use of the allomorph  $\acute{in}$  unnecessary:

(30) Yu fiba[r]=an bɔkú. 2sg resemble=3sg.овј a.lot 'You resemble him a lot.'

Once the epenthetic segment is present, there is no phonotactic difference with a word in which the final consonant forms an integral part of the root like  $m\'{a}red$  'marry' in (24). Another example featuring epenthesis follows, involving the general associative preposition  $f_{2}$  'PREP'. In (31), we find /r/ epenthesis, in (32), suppletive allomorphy:

(31) E tót=an fɔ[r]=an.
3sg.sbj carry=3sg.obj prep=3sg.obj
'He carried it for her.'

(32) Dán tín dé fo ín. that thing BE.LOC PREP 3SG.INDP 'That thing is hers.'

Three aspects are noteworthy with respect to /r/ epenthesis in Pichi. Firstly, /r/ insertion is exceedingly rare in natural discourse. In the Pichi corpus, there are less than a dozen instances of /r/ epenthesis in natural discourse, involving a mere handful of lexemes, among them <code>k5ba[r]=an</code> 'cover it', <code>klia[r]=an</code> 'clear it', <code>fia[r]=an</code> 'fear him/her', <code>fiba[r]=an</code> 'resemble him/her, <code>dr5ngo[r]=an</code> 'get him/her drunk', and <code>fɔ[r]=an</code> 'for him/her'. By contrast, the corpus contains hundreds of syntagmas involving the suppletive allomorph <code>in</code>. I could therefore only uncover the distribution of the epenthetic /r/ and its role in TCSA by means of elicitation. Secondly, elicitation revealed that the availability of /r/ epenthesis is subject to considerable idiolectal variation. For some speakers, the use of epenthesis with many verbs is not acceptable, i.e. \*fála[r]=an 'follow him/her', for others it is. All speakers, however, accepted TCSA with all verbs and prepositions, whether belonging to the native Pichi or the non-native Spanish lexical layer.

The third aspect of interest is that r/r epenthesis is ungrammatical with Spanish derived verbs, cf. (33). Epenthesis is limited to the native layer of the Pichi vocabulary, thus excluding inserted Spanish verbs from the application of r/r epenthesis, and limiting them to TCSA alone, hence the ungrammaticality of the following example.

(33) \* Yu gét fə firma[r]=an. 2SG get PREP sign=3SG.OBJ Intended: 'You have to sign it.'

Pichi words with a word-final L-toned /ì/, e.g. wớri 'worry', merit some attention in the context of epenthesis. Such words exhibit the conditioning feature but neither trigger /r/ epenthesis nor TCSA, compare the ungrammatical sentences (34) and (35). Other verbs in this group are sớri 'feel sorry', grídi 'be greedy', hángri 'be hungry', lési 'be lazy', and tósti 'be thirsty'.

- (34) \* Den wóri[r]=an bɔkú.

  3PL worry=3sg.obj much
  Intended: 'They worried him a lot.'
- (35) \* Den wóri ín bokú.

  3PL worry 3sg.INDP much
  Intended: 'They worried him a lot.'

Instead, a word-final nasal /n/ appears at the clitic boundary, thus avoiding the LL vowel hiatus that should trigger suppletive allomorphy, as in (36):

(36) Di tín sórin=an bɔkú.

DEF thing make.sorry=3sg.obj much
'This made her feel very sorry.'

Outside of the clitic environment, the wordfinal /i/ in these words may, but need not be pronounced as a nasalised vowel, as shown in the phonetic transcription in (37):

The word-final /n/ in examples like (37) is therefore not epenthetic. It is morphologically affiliated to the verbal root and is realised in the clitic environment. The word-final /n/ in verbs like sɔʻri (group 1) has been constructed by analogy with words like fisin '(to) fish', hɔʻntin '(to) hunt', mɔʻnin 'morning', ivin 'evening', and planti 'plantain' (group 2). The construction of a word-final /n/ in group 1 words probably occurred in response to the ban on string-adjacent identical tones in the context of cliticisation.

#### 3.4 Intonation

The functions of intonation are realised by sentence-final particles and utterance-final boundary tones. Pichi boundary tones are floating tones, which are inserted at the right edge of an utterance. These boundary tones serve pragmatic functions by differentiating sentence types, such as declaratives from questions. They also fulfil grammatical functions by linking clauses.

Four boundary tones and contours, represented by <%> (Pierrehumbert 1980), were identified in the corpus. Their functions with declaratives and questions are summarised in Table 3.5 (cf. Hirst & Di Cristo 1998: 18–20).

Boundary tone	Declaratives	Questions
	Non-emphatic	Content
LH% (additive)	Emphatic	_
	List	_
Ø% (no tone)	Continuative	_
	Emphatic	_
LH% (substitutive)	_	Yes-no

Table 3.5 Utterance type and boundary tones

A boundary (contour) tone (henceforth only "boundary tone") associates with the last syllable of an utterance. A boundary tone (BT) may either form a contour by itself (e.g. question intonation) or arise if the lexical tone (LT) of the utterance-final syllable is polar to the following BT. Otherwise, a BT produces a fall or a level tone over the utterance-final syllable.

Table 3.6 shows how LTs and BTs interact. The leftmost column contains the word-final LT over the last syllable of the utterance. The top row contains the relevant BT. The

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boxes in the table contain the (contour) tones over the utterance-final syllable that result from the interaction of LT and BT. These tones represent the phonetic output, the way the tone is actually pronounced. Some of these output tones are level tones, others are contour tones of varying complexity.

LT/BT	Example	Declarative L%	Emphatic LH%	Cont./Emph.	Question LH%
L	dεn '3pL' Píchi 'Pichi' L H.L	L (fall)	LH	L (level)	LH
Н	gó 'go' pikín 'child' H L.H	HL	HLH	Н	LH
Н	<i>bɔbí</i> 'breast' L.H	Н	HLH	Н	LH

Table 3.6 Interaction of lexical tones and boundary tones

LTs are not overridden by BTs save in one instance. In yes-no questions, the utterance-final LT is deleted and replaced by the question boundary contour tone. This is why the rightmost column in Table 3.6 features the same LH% boundary tone in the utterance-final position with all tone classes.

#### 3.4.1 Declarative intonation

Non-emphatic declaratives feature an L%, which is also found on the right edge of the citation form of words. The declarative L% causes an utterance-final fall to the bottom of the pitch register. Compare the word-final L-toned syllable of  $k\acute{o}ntri$  'country' in Figure 3.27.

(38) A bin wánt kəmɔ́t na dís kɔ́ntri.

L L H L.H L H H.LL%

1SG.SBJ PST want go.out Loc this country.'

In contrast, polysyllabic vowel-final words with a final lexical H tone do not usually feature an utterance-final fall in non-emphatic declaratives. They retain their word-final H tone. Compare  $bb\acute{b}i$  'breast' in Figure 3.28.

(39) A de gí=an bɔbí.

L L H=L L.H

1sg.sbj IPFV give =3sg.obj

'I'm breast-feeding her.'

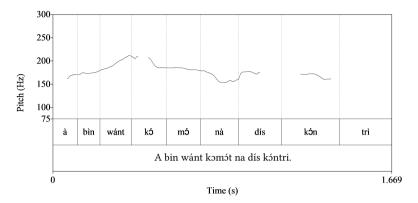


Figure 3.27 Declarative L% over H.L word

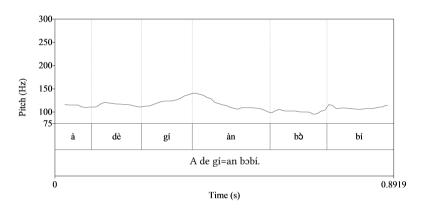


Figure 3.28 Unpronounced declarative L% over L.H word

Content questions feature the same boundary tone as declaratives. Compare the utterance-final fall over the monosyllable in Figure 3.29.

(40) Wétin mék dán wán?

H.L H H HL%

what make that one

'What causes this?'

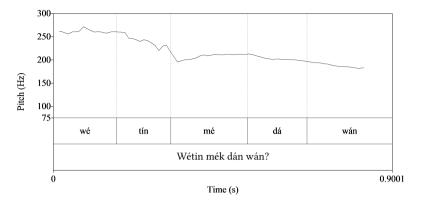


Figure 3.29 L% with content question

#### 3.4.2 Emphatic intonation

Emphatic intonation expresses meanings like extra-emphasis, insistence, impatience or reproach. There are two ways of signalling emphasis at the sentence level in Pichi. One way involves the use of the emphatic LH% boundary tone. A second way involves the use of pitch range expansion (cf. §3.2.5).

The emphatic LH% is an additive contour tone. It succeeds the lexical tone of the utterance-final syllable, which may therefore count up to three beats in length. Additionally, the last lexical H before the LH% boundary contour tone is often pronounced with an extra-high tone due to emphasis. This peculiar combination of an extra-high lexical tone and a contour boundary tone creates a highly perceptible utterance-final tonal melody.

Phonemically, an utterance-final L to which the emphatic LH% boundary tone associates bears an LHH sequence of tones. Phonetically, the utterance-final syllable is realised as an LH contour. Figure 3.30 depicts the utterance-final rise over the L-toned monosyllable =an '3sg.obj'.

(41) 
$$E$$
  $de$   $l\acute{e}=an$ .  
 $L$   $L$   $H=LH\%$   
 $3sG.sBJ$  IPFV lay= $3sG.oBJ$   
'She is laying it (on the table).'

When the emphatic boundary tone links with an utterance-final H-toned syllable the resulting contour features an initial rise, an intermediate fall, and a final rise. The utterance-final, extensively lengthened syllable thus bears an HLH contour. Compare the utterance-final H-toned monosyllables in '3sg.INDP' and  $g\acute{o}$  'go' in Figure 3.31 and Figure 3.32.

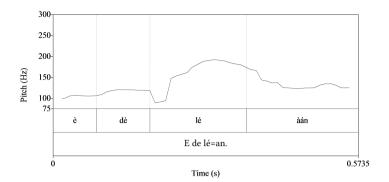


Figure 3.30 Emphatic LH% over L-final word

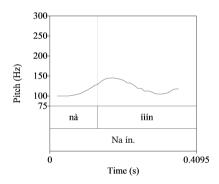


Figure 3.31 Emphatic LH% over H-final word

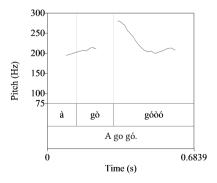


Figure 3.32 Emphatic LH% over H-final word

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- (42) Na in.

  L HLH%

  FOC 3SG.INDP

  'That's it [you should know that].'
- (43) A go gó.

  L L HLH%

  1SG.SBJ POT go

  'I'll go [you don't need to remind me to].'

An utterance-final, H-toned syllable of a polysyllabic word also bears this contour. Compare bbi 'breast' and chukchúk 'thorn' in Figure 3.33 and Figure 3.34. The two words were pronounced with emphatic intonation during vocabulary elicitation because the speaker expected me to be familiar with them.

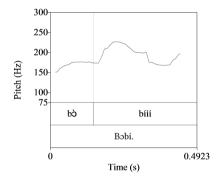


Figure 3.33 H% over vowel-final L.H word

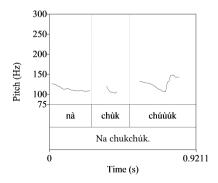


Figure 3.34 H% over obstruent-final L.H word

(44) Bəbí.
L.HLH%
breast
'Breast [that's self-evident!].'

(45) Na chukchúk.

L L.HLH% FOC thorn

'It's a thorn [that's self-evident].'

The LH% boundary contour tone is a loan from (Equatoguinean and, ultimately, European) Spanish together with the meanings associated with it. The LH% contour boundary tone is also employed for list intonation (cf. §3.4.3). Figure 3.35 presents the pitch trace of an utterance in Equatoguinean Spanish.

Compare the contour over the utterance-final L-toned syllable with that borne by the utterance-final L-toned syllable in Figure 3.30. Also compare the emphatic contour over the phonologically independent si 'yes' with that of the high-toned in '3sg.INDP' in Figure 3.31.

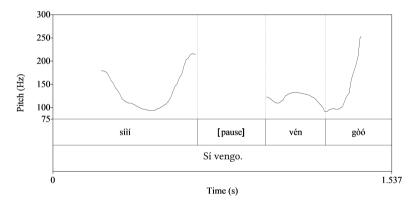


Figure 3.35 Emphatic intonation in European Spanish

(46) Si vengo.

HLH% H.LH%

yes I.come

'Yes [you should know that!], I'll come.'

#### 3.4.3 List intonation

The additive LH% boundary tone employed for emphatic intonation is also used for list intonation. As in emphatic declaratives, LH% associates with the final syllable and cre-

ates an LH contour over an utterance-final L-toned syllable and an HLH contour over an utterance-final H-toned syllable. The same intonation contour is once more found in Equatoguinean (and European) Spanish with a similar range of meanings.

The following three pitch traces form part of a list. Take note of the LH contour over the L-toned dependent pronoun  $d\varepsilon n$  '3PL' before the short pause, as well as the LH contour borne by the L-toned final syllable of manicura 'manicure' in Figure 3.36 and chia 'chair' in Figure 3.37. Compare this with the declarative L% over  $d\acute{e}$  'there', the closing sentence of the list in Figure 3.38.

- (47) A de mék finga den, manicura, (...)

  L L H H.L LH% L.L.H.LH%

  1SG.SBJ IPFV make finger PL manicure

  'I was making fingers, manicure, (...)'
- (48) (...) a de mék tapete den fo chía, (...)

  L L H L.H.L L L H.LH%

  1SG.SBJ IPFV make cloth PL PREP chair

  '(...) I was making chair-drapings, (...)'
- (49) (...) só a bin dé gét mí mɔní dé.

  H L L L H L L.H HL%

  so 1sg.sbj pst ipfv get 1sg.poss money there

  '(...) so I was getting my money there.'

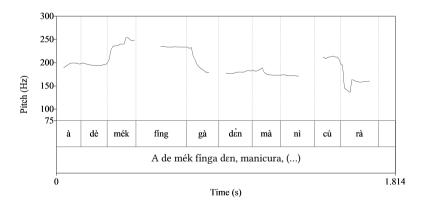


Figure 3.36 List intonation

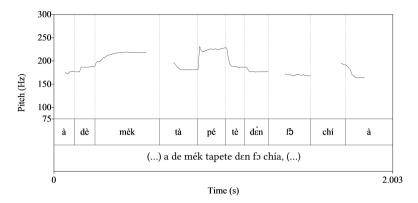


Figure 3.37 List intonation

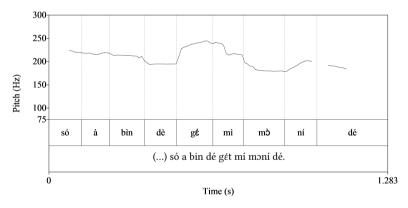


Figure 3.38 Declarative L% over final item in list

#### 3.4.4 Continuative intonation

The absence of a boundary tone, usually before a prosodic break (a brief but audible pause), signals continuative intonation. With continuative intonation, the lexical tone of the relevant syllable simply maintains its pitch and is therefore pronounced with the same pitch as it would in utterance-medial position. Continuative intonation functions as a floor-holding device, a juncture marker on the right edge of utterances in order to prepare the ground for following material. Continuative intonation therefore plays an important role in signalling topic and focus next to the particles employed for this purpose (cf. §7.4).

In Figure 3.39, the topical NP  $mi \, layf$  'my life' is set off from the rest of the utterance by a pause. The monosyllable layf 'life' bears continuative intonation. Compare this to the

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utterance-final monosyllable  $b\acute{a}d$  'bad', which features declarative intonation, signalled by L%. The symbol [p] indicates a pause. The pitch trace of the pronoun e '3sg.sbj' is slighty distorted due to creaky voice.

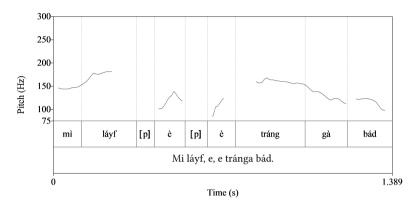


Figure 3.39 Continuative intonation with topicalisation

(50) Mi láyf, e, e tránga bád.

L HØ% L L H.L HL%

1SG.POSS life 3SG.SBJ 3SG.SBJ be.strong bad

'My life, it, it was really tough.'

Continuative intonation is also employed as a juncture marker between linked clauses. Here, it may occur alone as a prosodic clause linker between juxtaposed clauses, or in conjunction with an overt clause linker. Figure 3.40 and Figure 3.41 are two clauses linked in a sequential, temporal relation. The adverbial time clause is introduced by  $di\ de\ we$  '(the day) when' in Figure 3.40. In the example, continuative intonation is found over the rightmost L-toned monosyllable =an '3sg.obj'. The absence of the utterance-final L% of declarative intonation halts the fall of the lexical L tone to the bottom of the pitch register.

(51) Di dé wé yu go wánt plánt=an, (...)

L H H L L H H=LØ%

DEF day SUB 2SG POT want plant=3SG.OBJ

'The day you would want to go plant it (...)'

The second clause in sequence features a lexical H over the utterance-final syllable. Here, continuative intonation produces no effect other than the maintenance of the lexical H tone. Compare *dɔtalɔ* 'daughter-in-law' and *sɔnilɔ* 'son-in-law' in Figure 3.41.

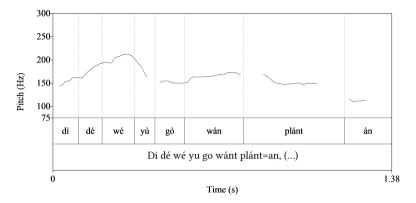


Figure 3.40 Continuative intonation with clause linkage

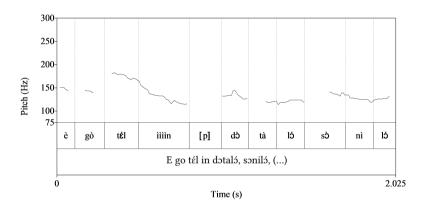


Figure 3.41 Continuative intonation over non-final clause

Continuative intonation is also used as a stylistic device in 'unfinished' utterances, such as the one in Figure 3.42. The final syllable retains its H tone or may even rise slightly towards the end. This emphatic variant of declarative intonation is employed for dramatic effect. Compare the utterance-final, H-toned monosyllable  $d\acute{e}$  'there'.

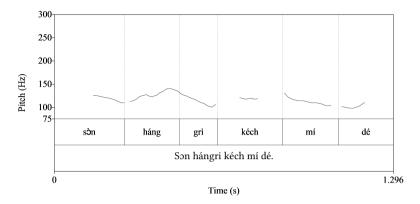


Figure 3.42 Continuative intonation for stylistic effect

(53) Sən hángri kéch mí dé. L H.L H H H HØ% some be.hungry catch 1sg.indp there 'I became really hungry there [you wouldn't believe how much].'

#### 3.4.5 Question intonation

Yes-no questions are formed with an LH% contour boundary tone. Contrary to emphatic intonation, question intonation is substitutive: The lexical tone over the utterance-final syllable is replaced by the question LH%. In this way, the utterance-final syllable of a yes-no question invariably bears an LH contour, irrespective of its original tone. Compare the pitch contour over the L-toned second syllable of *Píchi* 'Pichi' in Figure 3.43.

(54) Yu go lán mí Píchi?

L L H H H.LH%

2SG POT teach 1SG.INDP Pichi

'Will you teach me Pichi?'

The H tone of the LH% contour may vary in pitch. While non-emphatic questions exhibit a gentle final rise and may therefore be similar in pitch to continuative intonation, more emphatic questions yield steeper rises. The more dramatic the rise, the more the question may additionally convey emphatic nuances like counter-expectation or insistence. I assume that in instances where the rise is particularly steep, the H tone component of the LH% boundary contour tone is raised to extra-high, thus rendering L+H%. Such an extra-steep rise is particularly common in rhetorical questions, optionally over the L-toned utterance-final question tag  $n\delta$  as in the following example.

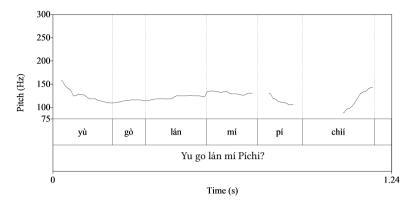


Figure 3.43 Non-emphatic yes-no question

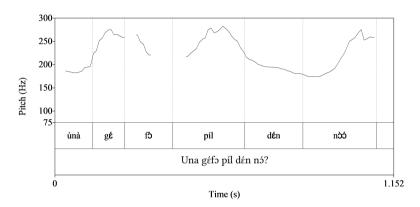


Figure 3.44 Emphatic yes-no question

(55) Una géfo píl dén nó?

LL H.L H L L+H%

2PL have.to peel 3PL.INDP INTJ

'You [PL] have to peel them, right [you should know that]?'

The utterance-final syllable in the question above exhibits a particularly steep rise. At the same time, emphasis is additionally expressed through pitch range expansion. The contrast between H and L tones is widened across the entire utterance as can be seen by the deep troughs in the pitch trace.

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