

Coreguaje: Tone, Stress, and Intonation

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0. Introduction

Coreguaje¹ has a complicated suprasegmental system which, for a number of years, caused much confusion to linguists studying the language, who vacillated between calling it a multiple stress system and a tonal system. (Of the other languages in the Western Tucanoan family, some have been analyzed as stress languages and others as tone languages.)

A major reason for the difficulty is the fact that pitch differences, as well as stress differences, are very slight and very difficult to hear. This is especially true in men's speech. Because mostly men were available as language consultants, the first problem was hearing the language well enough to record it correctly.

According to Eunice V. Pike, "When high pitch is a feature of a tone system, the syllable with high tone is frequently shorter than a syllable with low tone...in analogous environments" (1974:169). Since it is true that high, stressed syllables in Coreguaje tend to be shorter in duration than low, stressed syllables, this argued for a tone system. Eunice Pike also stated, "When high pitch is a contrastive feature of stress, vowel quality is frequently conditioned by distribution into that stressed syllable versus distribution into a nonhigh syllable. On the other hand, when high pitch is a feature of a tone system, vowel quality is unaffected by distribution into a high versus a nonhigh syllable" (1974: 171). There is no conditioning in the quality of Coreguaje phonemes which would correlate with the occurrence of high pitch on a syllable. This was further evidence for a tone system.

Coreguaje nouns, the majority of which are disyllabic with the pattern CVCV, present a problem because of the fact that in isolation generally there is no contrast in either stress or pitch. In the end we found that in certain frames there were four contrasting sets, but in isolation phrase stress completely neutralized the contrasts, at least in CVCV nouns.

In the process of the analysis it finally became evident that stress was basically predictable, though tone was not. When no consistent tone sandhi patterns were discovered, the function of intonation was considered. It was then found that Coreguaje has contrastive intonation patterns which affect and even override word tone patterns, making the latter very difficult to distinguish.

1. Stress and Rhythm

Rhythm is an important consideration in Coreguaje phonology. Word length, stress, and intonation all work together to affect Coreguaje rhythm. (Intonation is discussed in section 3.)

Every phonological word, sentence-level phrase, and sentence in Coreguaje has a tendency to fade away: that is, as a unit progresses, the syllables tend to become lower in pitch, shorter in length, and diminished in volume. The first syllable of a stem of a word is usually stressed. Stress is characterized by perceived loudness and length. High pitches tend to be higher toward the beginning of the word, phrase, or sentence than they are toward the end. (For a slight deviation from this pattern, see sect. 3.1.) Also, the final syllable or syllables of independent verbs tend to become voiceless before pauses.

The length of the word, phrase, or sentence is very important in Coreguaje phonology. The decrescendo effect is most prominent in longer units. Word length is also important in tone rules as well as in morphophonemic rules.

2. Tone

There are two tone levels in Coreguaje, high and low. (High tone is written ' and low tone is unmarked.) Words of two syllables contrast in all four possible sequences, e.g., high-high, *ñámá* 'deer'; high-low, *náso* 'monkeys'; low-high, *rut^há* 'flies'; and low-low, *wek^h* 'tapirs'. These contrasts are found in the following contexts: (1) phrase initially on words which are not in the phrase nucleus, or (2) phrase medially on words which occur either following words where there is no perturbation across word boundaries or following words ending in low tone and which are in the same close-knit sequence.² (For further discussion on phrases, see sect. 3.)

All single morpheme verb stems and the majority of noun stems consist of two syllables. Syllables are of the following types:

First syllable: V₁, CV₁, or CV₁?

Second syllable: V₂, or CV₂

? = glottal stop

C = all consonants except ʔ
 V₁ = all oral and nasalized vowels
 V₂ = all oral vowels³

Examples:	<i>u.k^hú</i>	'to drink'
	<i>t^hó.á</i>	'fire'
	<i>q̣^ʔ.só</i>	'manioc'
	<i>sɛ̃^ʔ.sɛ̃</i>	'possum'

Tone rules vary slightly between stems of different syllable patterns. The three stem types are (C)VCV, (C)V^ʔCV, and (C)VV.

Examples:

<i>k^hak^há</i>	'to enter'
<i>ǰí^ʔwa</i>	'to give advice'
<i>húá</i>	'to pierce'

Stems of the first two patterns function essentially alike, except that syllables with glottal stop tend to be higher in pitch than high tone syllables without it. To date, no stems of the pattern (C)VV have been found with the tone pattern low-high. ((C)VV stems are considered to be two syllables.)

2.1. Nouns. The four contrasting tone patterns mentioned are partially or completely neutralized when two-syllable nouns are pronounced in isolation, e.g., as a one-word statement in response to the question "What are they?" —*ñáma* 'Deer.'— or as a one-word clarification question in response to a statement or question such as "(Did you say) deer?" Basic tone patterns were determined by listening to nouns in such close-knit phrases as *___ pá^ʔíme*, 'There are ___' and short sentences such as *___re ñáami ǰí^ʔi* 'I see a ___.'

Nouns with the pattern (C)VCV show neutralization of tone when pronounced in isolation. (In the following examples, ' indicates stress on the following syllable, ˈ indicates high pitch, ˌ indicates high falling pitch, and ˋ indicates low pitch.)

Basic Form	Statement	Question
<i>ñámá</i> 'deer'	<i>ñámá</i> 'Deer.'	<i>ñámà</i> 'Deer?'
<i>ñásò</i> 'monkeys'	<i>ñásò</i> 'Monkeys.'	<i>ñásò</i> 'Monkeys?'
<i>rùt^há</i> 'flies'	<i>rùt^há</i> 'Flies.'	<i>rùt^hà</i> 'Flies?'
<i>wèk^h</i> 'tapirs'	<i>wèk^h</i> 'Tapirs.'	<i>wék^h</i> 'Tapirs?'

Those nouns with the pattern (C)VV, however, do contrast somewhat in isolation as a one-word statement.

Basic Form	Statement	Question
' <i>míé</i> 'anteaters'	' <i>míè</i> 'Anteaters.'	' <i>míê</i> 'Anteaters?'
' <i>súì</i> 'pheasants'	' <i>súì</i> 'Pheasants.'	' <i>súì</i> 'Pheasants?'
' <i>t^hèà</i> 'a bird'	' <i>t^héá</i> 'A bird.'	' <i>t^héà</i> 'A bird?'

2.2. Verbs. In this section the tone patterns of independent verbs in isolation are presented.⁴ Since Coreguaje is a verb-heavy language, sentences consisting of only an independent verb are very common. Since tone is not conditioned across pauses, there is a relatively uncomplicated body of data for consideration.

An independent verb must have at least one high tone and one low tone. It cannot have more than three high tones. When two high tones occur on contiguous syllables, there is some free variation in the actual pitches so that one or the other may be slightly higher, or they may be the same. When three high tones occur on contiguous syllables, if the first or the last high-tone syllable occurs contiguous to a low-tone syllable, it will usually be lowered to a mid. A very few suffixes have inherent high tone. Sequences of tones on the independent verb are determined by the interrelationships of the tones of the stem, the tones of the suffixes, and the total number of syllables in the suffix cluster.

The following rules apply to independent verbs. Examples are provided after each rule. Note that stems of the tone pattern high-low often act differently from the others. (Here high tone is marked ' and low tone is unmarked.)

Rule 1. The first syllable of a suffix or suffix cluster bears high tone. Examples:

sai + *-mí* = *saimí*
go masc sing 'he is going'

jáwe + *-ha'* + *-mí* = *jáwehá'mí*
be hidden intent masc sing 'it will be hidden'

hore + *-sí* + *-na* + *-'* + *-me* = *horesína'me*
lie complete pl anim nom stat pl 'they lied'

káhé + *-sí'* + *-k^hí* + *-a'* + *-mí* = *káhésí'k^hía'mí*
descend complete masc sg nom stat masc sg 'he descended'

asá + *-repa* + *-ma'* + *-mí* = *asárépama'mí*
hear truly neg masc sg 'he truly did not hear'

Rule 2. The last syllable of the independent verb cannot bear high tone except when the suffix is only one syllable long and the verb components fulfill one of the following conditions.

a. The stem is of the (C)VV syllable pattern and the last syllable of the stem is low. Examples:

qi + *-mi* = *qimí*
eat masc sing 'he is eating'

peo + *-kʰɛ* = *peokʰɛ*
be not neuter interr 'is there not any?'

kʰóo + *-mi* = *kʰóomí*
receive masc sing 'he receives'

b. The suffix has inherent high tone. Examples:

jóʔo + *-kʰɛ* = *jóʔokʰɛ*
work masc sing interr 'is he working?'

mítʰá + *-kʰɛ* = *mítʰakʰɛ*
come masc sing interr 'is he coming?'

asá + *-í* = *asáí*
hear masc sg compl interr 'did he hear?'

If neither of the above conditions is present, the penultimate syllable of the independent verb with a suffix cluster of two syllables bears high tone and the ultimate syllable bears low tone. Examples:

<i>masí</i>	+	<i>-maʔ</i>	+	<i>-kʰɛ</i>	=	<i>*masímaʔkʰɛ</i>	Rule 2
know		neg		masc sg			<i>masímaʔkʰɛ</i>
				interr			'doesn't he know?'

<i>jáwe</i>	+	<i>-mi</i>	=	<i>*jáwemi</i>	<i>jáwémi</i>
be hidden		masc sg			'it is hidden'

<i>káhé</i>	+	<i>-mi</i>	=	<i>káhémi</i>	<i>káhémi</i>
descend		masc sg			'he descends'

Rule 3. When there are four or more syllables in the suffix cluster, Rule 2, of course, does not apply. If the stem is of the pattern high-low, a high tone occurs on the second syllable of the suffix cluster in

addition to the high tone on the first syllable (from Rule 1). Suffix clusters following all other stems have a high tone only on the first syllable of the suffix cluster, when all the suffixes are inherently low. The tones of the stem remain the same as its basic form in these cases, though the second syllable of a low-low stem may vary to mid. Examples:

<i>jó'o</i>	+	<i>-repasina'ʔme</i>	=	<i>*jó'orepasina'ʔme</i>	'they truly worked'
work		they truly did		<i>*jó'orépasina'ʔme</i>	Rule 1
				<i>jó'orépásina'ʔme</i>	Rule 3
<i>kʰóo</i>	+	<i>-si'ʔkʰia'ʔmi</i>	=	<i>*kʰóosi'ʔkʰia'ʔmi</i>	'he received'
receive		he-completive		<i>*kʰóosi'ʔkʰia'ʔmi</i>	Rule 1
				<i>kʰóosi'ʔkʰia'ʔmi</i>	Rule 3
<i>asá</i>	+	<i>-si'ʔkʰia'ʔmi</i>	=	<i>*asási'ʔkʰia'ʔmi</i>	'he heard'
hear		he-completive		<i>asási'ʔkʰia'ʔmi</i>	Rule 1

Two-syllable suffixes which have inherent high tone tend to act differently from suffixes without inherent high tone. They also seem to have stress on the first syllable as do stems. Historically these high tone suffixes were probably verb stems, but because of their dependence on other verbs they now function as suffixes. These suffixes are:

<i>-kʰái</i>	benefactive
<i>-háí</i>	accompanying movement
<i>-kóso</i>	probability

When used in an independent verb these suffixes keep their inherent tones, and the basic tones of the stem do not change.

The suffix *-kúa* behaves irregularly. When following a high-high stem, the stem tones become high-low and *-kúa* bears low tone. All other stems become low-high and *-kúa* is high-low. Suffixes following *-kúa* follow Rules 1-3.

3. Intonation

Two types of intonation contours have been observed in Coreguaje speech: those covering a phrase (or sentence portion or clause), after which there is a tentative pause, and those preceding a final pause.

(1) In nonfinal contours, there is an optional premargin in which basic word tones of words are maintained, though the pitch levels are usually quite close together. The nucleus of this pause group (defined as the syllable containing the loudest stress and longest vowel length) occurs on the stressed syllable of the last word in the group, i.e., on

the last stressed syllable in the pause group. The final pitch of this unit is predictable in accord with the tones of the final word or words as follows:

If the final word has the tones high-high or low-high, there is no change in pitch. If it is high-low, the low tone is raised to just slightly lower than the high syllable, so that the word is pronounced high-mid. If the word preceding a high-high final word in this group ends in low tone, the intonation generally follows the tone patterns fairly closely. If the penultimate word ends in a syllable bearing basic high tone, that high tone may remain high, or the pitch may rise gradually from the beginning of the penultimate word to the high of the nucleus, thus giving the last syllable of the penultimate word a mid pitch.

'kà'nwì *'pá'fè* 'what is in the body'
body being, life

'já'pí *'náát'ò* 'when the witch doctor looks'
witch doctor when looks

'rèk'ò *'k'k'k'k'* 'fear in one's heart'
soul fear

or

'rèk'ò *'k'k'k'k'*

(2) In final contours there is a strong down-glide of pitch beginning with the nucleus of the word in the phrase nucleus and continuing over the rest of the syllables in the phonological phrase. The nucleus of this phrase is usually on the nucleus of the independent verb, but may also occur on question words (which are at the beginning of the phrase) or on any word which receives emphasis. All high tones occurring after the phrase nucleus in the final contour are considerably lowered.

'n'óómí *'jáí* 'the witch doctor reveals'
he shows witch doctor

In addition, there is an optional postmargin to this main final phrase which may be a sort of tag comment in the form of a dependent clause or a repetition of one of the items in the main clause, such as the subject or object. All words in this final margin are perceptually very

low, though at times a very slight rise is heard on basic high tone syllables. The final word of this postmargin has an even lower down-glide.

ʃáà *ʔmàsimè* *ʃàhé* *ʔìk^húnà*

witch doctors they-know banisterium those who drink
'witch doctors know (those who drink banisterium)'

4. Summary

Coreguaje phonology is characterized by a strong decrescendo effect over phrases, sentences, and longer words. This tends to minimize contrasts between high and low tone, depending on where in the pause group words occur. Nonfinal intonation allows phrase-final high tones to remain high, but pulls corresponding low tones to mid. Final intonation causes high tones to be lowered, often to the point of being perceived as low. Otherwise, noun and verb stems of two syllables contrast in all four possible sequences of tone. Suffixes with inherent high tone generally keep those tones. Suffixes with no inherent high tones may receive one or more high tones depending on the tone pattern of the stem and the total number of syllables in the word.

Notes

1 Coreguaje is a member of the Western Tucanoan language family and is spoken by approximately 800 people who live on the tributaries of the Ortegua River below Florencia and the Caquetá River below Solano, in Caquetá, Colombia. Research for this paper was done under the auspices of the Summer Institute of Linguistics between February 1975 and August 1979. Most of the present analysis was developed during a linguistic workshop conducted by Dr. Donald A. Burquest of the University of Texas at Arlington in August 1978 at the Summer Institute of Linguistics center in Lomalinda, Colombia. It was then revised during a phonology workshop conducted by Dr. Ruth Brend of Michigan State University in February 1981, also at Lomalinda. The principal Coreguaje language consultants in this project were Alicia García Pizarro and Silvio Fajardo from Maticurú and Elicenia Gutiérrez Gasca from Jácome.

2 In close-knit verb phrases where the first word of the phrase is an adverb, a verb stem, or an incorporated noun, the first syllable of the following conjugated verb is raised to high tone if the first word ends in low-low.

Examples:

<i>ʔì</i>	+	<i>ʔwèsimè</i>	=	<i>ʔì ʔwèsimè</i>	'he doesn't know how to eat'
eat		he doesn't know			
<i>ʔhòʔè</i>	+	<i>ʔràimè</i>	=	<i>ʔhòʔè ʔràimè</i>	'he's coming again'
again		he comes			
<i>ʔwàʔì</i>	+	<i>ʔsàimè</i>	=	<i>ʔwàʔì ʔsàimè</i>	'he's going hunting'
meat		he goes			

The only other perturbation occurring other than that conditioned by intonation is the phenomenon of either a high tone or a low tone optionally lowering or raising to mid when occurring between a low and a high.

3 If V_1 is not the same as V_2 (disregarding nasalization), they cannot both be rounded vowels. To avoid this combination, u becomes i in the environment of o .

4 This section is included in outline form in the article by Young, Cook, and Galow about Coreguaje phonology.

References

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