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Páez: Pitch and Stress in the Phonological Word and Phrase

Florence L. Gerdel

0. Introduction

The purpose of this paper is to present some details on Páez stress and pitch not included in Gerdel 1973*a*, sects. 4-7. Of particular interest is the existence in Páez[1] of contrastive sets or classes of phonological words whose class membership appears to be defined primarily by a distinctive pattern of stress-pitch placement under varying conditions of affixation (sect. 2.3).

The tagmemic model[2] facilitated the analysis by revealing the important functions of pitch-stress on the phrase as well as on the word level.

1. Phonemes and Syllables

Páez has twenty-eight consonant and eight vowel phonemes.[3] Their contrastive-identificational features, variants, and distribution into sixteen syllable types (which contain one vocalic nucleus and from zero to three consonants in the pre- and postnuclear margins) are described in Gerdel 1973.

2. The Phonological Word

The phonological word in Páez is marked by two primary features: (1) potential pause at the boundaries, and (2) a phonological nucleus identified by its bearing primary stress and high pitch. A secondary stress may also be present depending upon the number of syllables in the word and its location in the phonological phrase.

2.1. Pitch-Stress on Monomorphemic Stems. The different manifestations of pitch-stress in monomorphemic stems are illustrated by the following examples:

kút^{y}x 'corn', *skúut^{y}x* 'wheat', *xį* 'to say', *píi* 'to stop raining', *pád* 'to sweep', *páad* 'to make a fence', *ísa* 'truth', *íisa* 'each', *déwe* 'to pay', *déewe* 'to defend oneself', *wakú* 'tick' (insect), *lawéč* 'small lizard',

yaatúl 'stick to protect self from dogs', *į?née* 'in vain', *piišáa* 'sheep', *pedá* 'to bury', *pagáy* 'to look upwards', *įšį̨* 'to prevaricate', *peeygą́x* 'to show love', *meečíka* 'kind of bird', *pečkánu* 'to forget'.

Stems of three syllables do not carry stress on the first or last syllable.

2.2. The Phonological Nucleus in Nonverbs. In a phonological word in which the grammatical or lexical root is not a verb, the phonological nucleus, as defined by the occurrence of pitch-stress, is always located within the grammatical root. Examples:

(1)	*káp +-a?*	*> kápa?*
	'hole' (subject marker)	'hole'
(2)	*kíwe +-ga*	*> kíwega*
	'earth' (directional)	'to the earth'

2.3. The Phonological Nucleus in Verbs. In phonological words in which the root is a verb, the pattern for roots that are nonverbs does not always hold. There are two distinctive patterns of pitch-stress placement. In the one case (Set A verb stems),[4] the phonological nucleus is located within the verb stem. This set of verb stems behaves just like the nonverb stem with respect to pitch-stress placement.

In the second case (Set B verb stems), the pitch-stress placement is either inside or outside of the verb stem depending upon the pattern of affixation,[5] falling on (1) a formative vowel, (2) certain derivational affixes, or (3) the stem itself.

2.3.1. Pitch-Stress on the Formative Vowel. In phonological words containing Set B verb stems, pitch-stress falls on the first formative vowel[6] when the suffix is one of a limited number of simple tense-aspect markers: *-¢* 'progressive'; *-ga* 'hortatory (perfect tense)'; *-n* 'future tense'; and *-?* 'habitual present aspect'. Examples:

	Verb stem	+ Formative V	+ Process	+ Subj. ref. (3s)	> Phonological word
(3)	*txetx* 'to ram'	*-ée*	*-¢*	*-a?*	*txetxée¢a?* 'he is ramming'
(4)	*wete* 'to fall'	*-ée*	*-¢*	*-a?*	*wetée¢a?* 'he is falling'
(5)	*šawed* 'to return'	*-úu*	*-¢*	*-a?*	*šawedúu¢a?* 'he is returning'

	Verb stem	+ Formative V	+ Habitual present	+ Subj. ref. (3s)	> Phonological word
(6)	*txetx* 'to ram'	*-ée*	*-ʔ*	*-k*	*txetxéʔk* 'he rams'
(7)	*wete* 'to fall'	*-ée*	*-ʔ*	*-k*	*weteʔk* 'he falls'

Compare corresponding examples of Set A verbs, where the pitch-stress falls on the stem:

	Verb stem	+ Formative V	+ Process	+ Subj. ref. (3s)	> Phonological word
(8)	*txetx* 'to wash clothes'	*-e*	*-¢*	*-aʔ*	*txétxe¢aʔ* 'she is washing clothes'
(9)	*weʔwe* 'to speak'	*-e*	*-¢*	*-aʔ*	*wéʔwe¢aʔ* 'he is speaking'
(10)	*pas* 'to answer'	*-u*	*-¢*	*-aʔ*	*pásu¢aʔ* 'he is answering'

			+ Habitual present		
(11)	*txetx* 'to wash clothes'	*-e*	*-ʔ*	*-k*	*txétxeʔk* 'she washes clothes'
(12)	*weʔwe* 'to speak'	*-e*	*-ʔ*	*-k*	*wéʔweʔk* 'he speaks'

2.3.2. Stress Variants on Derivational Affixes. A limited class of derivational affixes has accented versus unaccented variants the distribution of which is defined in terms of the set of verbs to which they are appended. These derivational affixes include: *-sa/-sáa* 'nominalizer'; *-ni/-níi* 'past participle'; *-kaxn/-káxn* 'purpose'; *-waʔx/-waʔx* 'obligatory'; *-nu/-núu* 'prohibitive'.

The stressed forms occur with Set B verbs, while the nonstressed forms occur with Set A verbs, as in the following examples:

Set B:

	Verb stem +	Nominalizer >	Phonological word
(13)	*txetx*	*-sáa*	*txetxsáa*
	'to ram'		'one who rams'
(14)	*wete*	*-sáa*	*wetesáa*
	'to fall'		'one who falls'
(15)	*šawed*	*-sáa*	*šawedsáa*
	'to return'		'one who returns'

Set A:

	Verb stem +	Nominalizer >	Phonological word
(16)	*txetx*	*-sa*	*txétxsa*
	'to wash clothes'		'laundress'
(17)	*we?we*	*-sa*	*wé?wesa*
	'to speak'		'speaker'

2.3.3. Homophonous Forms. In all forms of affixation except those described in sections 2.3.1 and 2.3.2, the pitch-stress falls on the stem of the verb.[7] Under these conditions, some forms result which are homophonous (compare examples 18 and 20). Therefore, one must resort to context to identify what lexical word is being used.

Set B:

	Verb stem +	Subj. ref. (3s) >	Phonological word
(18)	*txetx*	*-ku*	*txétxku*
	'to ram'		'he rammed'
(19)	*wete*	*-k*	*wétek*
	'to fall'		'he fell'

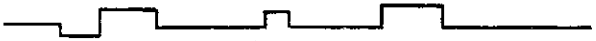
Set A:

	Verb stem +	Subj. ref. (3s) >	Phonological word
(20)	*txetx*	*-ku*	*txétxku*
	'to wash clothes'		'she washed clothes'
(21)	*we?we*	*-k*	*wé?wek*
	'to speak'		'he spoke'

3. The Phonological Phrase

The phonological phrase is marked by potential pause and carries an intonation contour. The nucleus of the phrase bears extra heavy stress (") and, usually, extra high pitch (´).

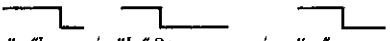
3.1. Potential Pause. Pause at the end of phrases may be final (#) or nonfinal (/). Example:



(22) *má ʔ-xį-"mẽe-šᵘa-ba / węsę ʔx-n-"šᵘãa-u ʔk ú ʔpuʔ #*
anything-not-saying hearing-just-he was
'He didn't say anything, he just listened.'

Nonfinal, overt pause occurs as follows:

(1) Between items in a list. Each item constitutes a short phonological phrase in itself. Example:

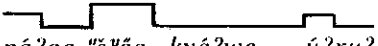


(23) *"pĩl-su / "kũ ʔta-su / "yãp-su*
shin-in shoulder-in eye-in
'in the shin, in the shoulder, in the eye'

(2) Following the first part of a compound phonological phrase (see sects. 3.2.2.1 and 3.2.2.2).

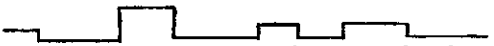
Otherwise, a dependent, nonfinal phonological phrase may be followed immediately by another phrase with no intervening pause. Example:

(24) *"są̃ ʔxį-ne ʔta "ãtalᵘ ikxna kyąą*
feed-must-they chicken killing for-that



pá ʔga-"šᵘãa kyą́ ʔwę ú ʔxuʔ #
reason-just thus he-goes-about
'They must be killing chickens to feed him and that is why he goes around.'

Sentence finally, pauses are obligatory. Example:



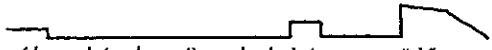
(25) *nása "yũx wála pkxáakxe ʔ-tᵘ #*
people certainly many met-they
'Many people met together.'

3.2. Intonation Contours. For the purposes of describing the range of characteristic intonation contours in the phonological phrase, it is useful to distinguish between marked and unmarked phrases.

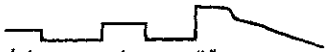
3.2.1. Unmarked Phrases. For the present purpose, the unmarked contour will be defined as the characteristic contour of a simple, active, declarative sentence containing no special focus or emotive components.

The **nucleus** is identified by a characteristic combination of high stress and high pitch. The pre- and postnuclear margins then have characteristic features depending upon their articulation with both the phonological nucleus and the particular features of the grammatical structure which these margins accompany.

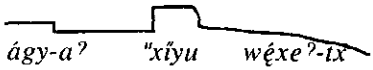
In the unmarked contour, the nucleus of the phonological phrase normally falls upon the main verb, unaffected by the amount and type of affixation. Given that the normal word order is Subject, Object, Verb, the nucleus falls nearly at the end of the phrase.
Examples of unmarked phrases:



(26) *tékx kús-ktxa'w kalabóso-te "dĕx*
three nights-we jail-in slept
'We slept in jail three nights.'



(27) *kúse yúxva "ų̃s-nu-we*
hand even give-don't (pl)
'Don't even shake his hand.'

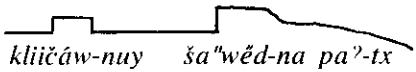


(28) *ágy-a' "xĭyu wę́xe'-ix*
I-(subj) to-know want-I
'I want to know.'

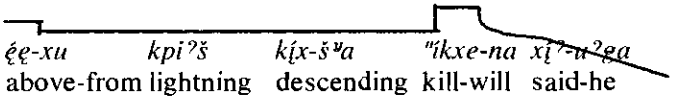
The **prenuclear margin** of the phonological phrase is characterized by an intermediate level of pitch and stress. This level contour is broken by the occurrence of any word-level pitch-stress which produces a small peak in the contour, illustrated in examples 26-28.

The **postnuclear margin** is marked by sharp decrescendo with a lowering of the pitch contour. The grammatical material on which the postnuclear margin may fall includes a quotative verb or phrase or a sentence link which is permuted to sentence-final position. Additionally, final syllables may be rapidly compressed together.

Examples:



(29) *kliičáw-nuy* *ša"wĕd-na* *pa?-tx*
Santander-to returning went-I
'I returned to Santander (de Quilichao).'



(30) *ɸɸ-xu* *kpi?š* *kíx-š"a* *"íkxe-na* *xį?-u?ga*
above-from lightning descending kill-will said-he
'He said that lightning would come down and kill me.'

3.2.2. Marked Phrases. The marked phonological phrase (intonation contour) is one in which the phonological nucleus either does *not* fall on the verb, or where the phrase contains a grammatical particle which is always the nucleus of the phrase because of its phonological quality of extra high pitch and stress (whether occurring in a verb, nonverb, or alone). The following matrix displays the grammatical conditions which manifest the marked phonological phrase.

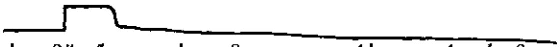
		Functional Features	
Basic Construction:	Simple	Emotive particles	Special focus
	Compound	Emotive particles	Special focus

3.2.2.1. Emotive Particles. Particles which by their function indicate emphasis, certainty, negation, or other strong feeling always comprise the nuclei of phrases, causing the verb to occur in a margin if the particle itself is not a part of the verb. These particles include: *-š"áa* 'just', 'only' (limiter), *-íi/-(V́)y* 'intensifier', *-yą́?x* 'now' (temporal), *-yúx* 'certainty, greater degree', *-d"íx* 'certainty, lesser degree', *-mée* 'negative', *-báa* 'dubitative', *yú?* 'theme marker'. (For the function of some of these particles on the discourse level, see Gerdel and Slocum 1976:270-73.) When the VV-final particles are followed by a glottal stop or glottal stop-initial suffix (?), the second V is assimilated. The particle *yú?* occurs only in phrase-final position, whether or not the phrase is sentence final. The other particles may occur phrase final but are not limited to that position.

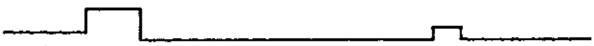
Simple constructions. The following are examples of simple indicative phrases marked by emotive particles:

(31) *węsęʔx-n-"šʸãa-uʔk* *úʔpuʔ*
hearing-just-he was
'he just listened'

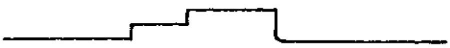
(32) *ádʸ-aʔs-"ĩi-ɓa* *wála* *táʔñi-uʔk*
me-to-(intens)-also many felt sensations-(3s)
'I also felt many sensations.'



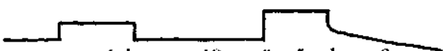
(33) *kyąʔ"wę̃-y* *ɓyu-ʔs* *wála* *psúw-kuʔtx*
thus-(intens) money-(obj) much used up-I
'I wasted a lot of money that way.'



(34) *wala* *"yũx* *pâpʔču-waʔx* *xíʔpxu-neʔ-ta*
much certainly eager must-have-been-they
'they certainly must have been eager'



(35) *kyą́ʔwę* *"dʸĩx* *"ɓáa-na* *sų́xųʔ-tx*
thus really probably-is thought-I
'that is probably so, I thought'



(36) *tee* *xwéd-te* *xiʔpx-"mẽe-ktxaʔw*
one place-to had-not-we
'we didn't have one (meeting-)place'

(37) *kus-"ɓãa* *yúuna*
night-probably becoming
'probably at nightfall'

(38) *têkx* *áʔte* *ą́xaȼ-te* *"yũʔ*
three months completing (theme)
'at the end of three months'

When any two particles of the same class occur in succession in one phrase, the first is slightly subordinate to the second, as in example 35. Compare also:

(39) *ew-"mẽe-"šᵘãa*
good-not-just
'very bad'

(40) *yú?-te-"šᵘãa-"mẽe*
water-in-only-not
'not only in the water'

Compound constructions. A compound indicative phrase (i.e., a sequence consisting of a nonfinal plus a final phrase) may be marked by the occurrence of the same particles in the (usually) short initial phrase which is followed by a nonfinal pause and either a marked or unmarked final phrase:

(marked phrase) / tentative pause (marked or unmarked phrase)

Examples:

(41) *kyąą "yũ? / adᵘ xú?gu "wẽ?we-na*
(marked) (unmarked)
he (theme) my behalf speaking
'he, speaking on my behalf...'

(42) *skwéla-te? kyą?"wę́-y / píya węę-"mẽe-teba*
(marked) (marked)
school-at thus-(intens) want-not-although
'so although not wanting to learn in school'

3.2.2.2. Special Focus. When a grammatical feature other than the class of particles in 3.2.2.1 receives special emphasis or focus, there is a resulting perturbation in the phonological phrase, producing a marked phrase. These features are found in both simple and compound constructions.

Simple constructions. Example:

(43) *"kxuę́?y-ku?tᵘ tᵘax*
first-they placed
'first they placed'

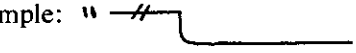
Compound constructions. In the same way, a compound indicative phrase may be marked by the occurrence of a unit carrying extra heavy stress and high pitch in a short initial phrase followed by nonfinal pause and either a marked or unmarked final phrase. Examples:

(44) *"tékx á?te-te? / ęę-xu kpi?š kíx-šʷa*
(marked) (unmarked)
three months-in above-from lightning descending

"íkxe-na
kill-will
'lightning will come down and kill him in three months'

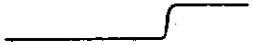
(45) *ąčx-a? "mxíį-ya? wá?l-šʷa / "kyą́ą kxį-na ú?xu?*
(marked) (marked)
now **to work** not-wanting **that** doing he-goes-about
'now he goes about not wanting to work'

3.2.3. Interrogative Phrases. The interrogative phonological phrase is determined by the grammatical shape of the interrogative constructions.

(1) When an interrogative word occurs in phrase-initial position, the phonological phrase contour is:
Example: 

(46) *"kíx yuu pá?ga-te-tx kyąą yuu*
what do for-I that did
'Why did I do that?'

(2) When there is an interrogative person marker, plus a final glottal stop, and when there is no interrogative word phrase initially, the phonological phrase contour is:
Example: 



(47) *mxíį uy-"gá-?*
work find-did you
'Did you find work?'

4. Phonological Paragraphs

The narrative paragraph is characterized by an overall high contour initially with a general downdrift of contours and consequent relative lowering of the phrase nuclei to the end of the paragraph. There is an obligatory intake of breath and a long pause at the end of paragraphs.

5. Summary

The pitch-stress system of Páez is best described by noting the manifestations of stress, accompanied by high pitch, not only on the word level of the phonological hierarchy but also on the phrase level.

The principal placement of the pitch-stress nucleus of the phonological word is on the stem. However, when certain affixes and particles which innately carry pitch-stress follow verb stems, the phonological nucleus is shifted away from the stem.

The nucleus of both marked and unmarked phonological phrases bears extra heavy stress and usually extra high pitch. In unmarked indicative phrases, extra pitch-stress falls on the verb. Marked phonological phrases result from the presence of a well-defined class of grammatical particles or by the effect of special focus upon some part of the phrase.

Notes

1 Páez has been classified as a language of the Macro-Chibchan family (McQuown 1955). It is spoken by approximately forty thousand people, many of whom are monolingual and live on the slopes of the central and western Andean ranges of the department of Cauca in Colombia, South America. The material for the analysis was gathered on various field trips made by the author and Marianna C. Slocum from 1964 to the present. The author wishes to acknowledge the excellent cooperation of various Páez speakers, but particularly Porfirio Ocaña for providing the narrative texts that were the basis for the conclusions presented here.

2 The author expresses her thanks to: Ruth Brend, for valuable insights as to how the material fits into the phonological hierarchy, and for assistance on other technical details; to Eunice Pike, for her chapter "Tagmemic Phonology" (Pike 1976:45-83); and to Stephen Walter, for helpful suggestions made before final presentation of the material.

3 The total consonant inventory, including both simple and complex units is /p t tʸ k b d dʸ g ȼ č ƥ s š x ƀ z ž g šʸ xʸ m n nʸ l lʸ w y ʔ/. There are four oral and four nasal vowels: /i į u ų e ę a ą/.

In reading the examples, it will be helpful to note the following:

(1) The voiced stops /b d dʸ g/ and the voiced fricatives /z ž/ all occur with homorganic nasal onset, thus, [ᵐb] [ⁿd] [ⁿdʸ] [ᵑg] [ⁿz] [ⁿž].

(2) The voiceless bilabial fricative /ƥ/ has a simple variant [ƥ] which occurs only before a high front vowel; complex variants [ƥʸ] [ƥʸ] occur elsewhere.

(3) The voiceless velar fricative /x/ has fortis and lenis variants [x] and [h], [x] occurring between /k/ and stressed /i į/ and in free fluctuation with [h] word initially, and [h] occurring elsewhere.

(4) Pitch-stress (i.e., primary stress with high pitch) is marked with an acute accent over a single vowel or over the first of two like vowels, i.e., V́, V́V.

(5) Nasalization is marked Y.

4 All verbs are assigned to certain classes according to their stem allomorphs (Slocum ms.). For the purpose of describing how they are affected by pitch-stress phenomena, they are here assigned to *sets* which do not coincide with the grammatical *classes* in number or in character.

5 The focus of this section is on the pitch-stress (phonological) features of verb forms. See Slocum ms. for the full grammatical aspects.

6 While it is recognized that the occurrence of formative vowels in Páez may be described in other ways, for the present purposes the following is useful: In Páez all verb stems may be considered to have assigned to them a formative vowel which may be either a single vowel or a set of geminate vowels. These formative vowels appear in the surface form when the stems are followed by certain tense-aspect markers. The basic rules describing the appearance of formative vowels are:

(1) Set A verb stems are followed by a single vowel. Where the stem is V-final, the formative vowel is assimilated (so that no more than one vowel occurs before a suffix.)

(2) Set B verb stems are followed by a set of geminate vowels. Where the stem is V-final, one vowel of the geminate set is assimilated (so that no more than two vowels occur before a suffix.) Before a glottal stop, the second formative vowel is dropped (so that no more than one vowel occurs before a glottal stop suffix).

(3) The formative vowels (either single or geminate) may also be used to derive verb stems from other grammatical words. In such cases, additional formative vowels are not added as per the processes described in this study. Such verbs behave like Set A or Set B depending on the formative vowel (geminate or single, with or without pitch-stress) which was added in the derivational process.

7 There exists, however, a class of emotive forms which override the word-level rules of pitch-stress placement. These are analyzed as particles which operate at the phonological phrase level (see sect. 3.2.2.1).

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