The Prosody of Affect in South Conchucos Quechua

Diane Hintz
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Abstract

This study contributes to our understanding of prosody by showing how fundamental frequency and voice quality, together with content and verbal tense, are used to communicate specific kinds of affect in South Conchucos Quechua discourse. Marked F0 elevation and widened range indicate positive affect (e.g., excitement and happiness). Correspondingly, lowered F0 and narrowing of the range communicate negative affect (e.g., shame and apprehension). Laughter can communicate positive affect, while use of a glottal stop, creating forceful voice quality, communicates negative affect. This study is an initial step towards describing the richness of the communication of affect in an indigenous language of the Americas.

This document includes .mp3 audio files and requires an appropriate media player.

Acknowledgements

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Glossing abbreviations for SCQ

1  -: first person (verbal/nonverbal)
3  -n third person (verbal/nonverbal)
AG  -q agentive nominalizer
ALL -man allative case
BEN -pa:/-pa/-pu benefactive
COM -wan comitative case
COMPL -rpu/-rpa completive aspect, downward direction
DEF -kaq definite
DS -pti adverbial, different subject
DUR -ra:/-ra durative aspect
EVEN -pis/-si additive, even, too
FAR -mu cislocative/translocative, action at a distance/from afar
FUT1I -shun future/imperative, first/second person inclusive subject
GEN -pa genitive
LIM -yaq/ya: limitative case
LOC -chu/-cho: locative case
MID -ku/-ka middle voice, reflexive
MUT -cha: mutual evidential
NEG -tsu negative
NMLZ.R -nqa/-sh(q)a nominalizer, realis
NOW -na by now, already
OBJ -ta accusative case, direct/indirect object
PFV -ski/-ska perfective aspect
PFV.O -yku/-yka completive-perfective, obligation, divergent alignment between stances, inward direction
PL.V -ya:/-ya plural verbal
<table>
<thead>
<tr>
<th>Code</th>
<th>Meaning</th>
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<tr>
<td>PL.N</td>
<td>-kuna plural nonverbal</td>
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<tr>
<td>PRMT</td>
<td>-q purpose complement with motion verb</td>
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<tr>
<td>PRS</td>
<td>-Ø present</td>
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<tr>
<td>PST</td>
<td>-r(q)ā past</td>
</tr>
<tr>
<td>PST.H</td>
<td>-q habitual past</td>
</tr>
<tr>
<td>PST.N</td>
<td>-na: narrative past</td>
</tr>
<tr>
<td>PST.R3</td>
<td>-sh((q)ā) recent past (from perfect), 3rd subject, and 3rd subject &gt; 1st object and 3rd subject &gt; 3rd object</td>
</tr>
<tr>
<td>PUNC</td>
<td>-ri/-ra punctual, brief duration, limited obligation</td>
</tr>
<tr>
<td>PURP</td>
<td>-pa: purposive case</td>
</tr>
<tr>
<td>RECP</td>
<td>-naku reciprocal</td>
</tr>
<tr>
<td>RPT</td>
<td>-sh(i) reportative evidential</td>
</tr>
<tr>
<td>SIM</td>
<td>-no/-nuy similitude case</td>
</tr>
<tr>
<td>SS</td>
<td>-r adverbial, same subject</td>
</tr>
<tr>
<td>TOP</td>
<td>-qa topic</td>
</tr>
<tr>
<td>YET</td>
<td>-ra/-ran yet</td>
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**Transcription symbols**

- `…` pause
- `..` short pause
- `-` truncated word (en dash)
- `—` truncated intonation unit (em dash)
- `[ ]` encloses overlapping speech
- `@` laugh
- `@you're @kidding` laughter during word
- `☺ you're ☺kidding` smile voice, smile symbol marks smiling during word
- `=` lengthened prosodically
- `&` suspended intonation unit, used when 2nd speaker intervenes
- `(H)` audible inhalation
- `###` unintelligible (one # for each syllable)
- `%` glottalization
- `↑` high pitch on word
- `↓` low pitch on word
- `#you're #kidding` uncertain hearing, marks transcribed words as uncertain
- `||` intonation unit boundary (or new line)
- `<L2=SPANISH> </L2>` code switch to another language
- `<CRK> </CRK>` encloses words with creaky voice quality
1 Introduction

Chafe (2002:279) observes that “...particular prosodic phenomena express heightened emotional involvement, and also sometimes specific affective attitudes.” In this paper, we will see how prosodic cues, together with verbal tense forms, serve to convey specific kinds of affect in South Conchucos Quechua (SCQ).

While a number of studies have been carried out on how specific types of affect are expressed through prosodic means in English, including Bezooyen (1984), Bolinger (1982), Chafe (2002), Couper-Kuhlen (1986), and Goldbeck, Tolkmitt, and Scherer (1988), very little work has been done on this topic in native American languages. Sicoli (2007) shows that in the Zapotec of Oaxaca, Mexico, a high pitched voice indicates respect, while breathy voice indicates an authoritative stance. This was the only study I could find on a native American language that showed distinct types of affect conveyed by prosody.

The data for the present study consist of my recordings of naturally-occurring conversations and narratives in the SCQ language area, central Peru. Before presenting the data and analysis, I first set the stage with an overview of how prosody, affect, and verbal tense come into play in this study, and how I am using these terms.

1.1 On prosody

Fry (1958:126) characterizes physical sound as having four psychological dimensions: pitch, loudness, length, and quality. These psychological dimensions have corresponding physical correlates: fundamental frequency (F0), intensity, duration, and formant structure. I consider PROSODY as having to do with variations in these dimensions of physical sound. Intonation is also a component of prosody.

Goldbeck et al. (1988:119) write: “The voice is indubitably an important means of signaling emotion: As it transmits a verbal message, it also sends out information concerning the speaker’s emotional state via acoustic cues such as fundamental frequency (pitch) and voice quality.” Just as Goldbeck et al. (1988) found fundamental frequency and voice quality to relay emotion, this study also focuses in particular on these two acoustic cues. I think of quality as also including creaky voice, forceful voice quality due to glottal stops, laughter and smiling voice quality.

1.2 On affect

Following Izard (1977:65) and Ochs and Schieffelin (1989:7), I consider AFFECT to be a broader term than emotion, including not only feelings, but also attitudes associated with people and situations. For Tomkins (1962:337), affect can be positive (as in excitement or joy) or negative (as in shame, apprehension or anger). The SCQ data showcase how prosody and verbal tense forms can convey both positive and negative affect.

1.3 On verbal tense

Together with prosody, VERBAL TENSE also plays a part in conveying affect in SCQ. Verbal tense forms do much more than place events in time. Fleischman (1989:2) writes: “…it has increasingly come to be recognized that the functions of tense in discourse—particularly narrative discourse—are frequently not limited to the basic REFERENTIAL function [grammatical function] of locating events in time.”

Ochs and Schieffelin (1989) and also Labov (1984) present evidence that languages use a variety of morphosyntactic and discourse features, including tense-aspect marking, to intensify and specify attitudes and feelings. In Hintz 2007, I show how in SCQ, the narrative past tense -na: can be used to mark negative affect, including shame and apprehension. The present tense -Ø, when it is used as historical present, can mark positive affect, such as excitement and joy.
We will now see how affect can be expressed in this language through changes in F0, and following that, how it can be expressed through voice quality.

2 Affect expressed through changes in F0

2.1 Almost no variation in pitch

The orientation to the folktale Achkay is found in (1). Other than a phrasal accent on the word for ‘poor’, the pitch varies little across this utterance, as shown in figure 1. The storyteller is not communicating much, if any, affect as she gives the orientation.

(1) Little variation in pitch in the orientation, narrative past, (A1–3) Achikayqa.mp3

1 L: The witch.
2 They were narrative past poor, surely, like us.
3 There were narrative past many parents and many children.

Figure 1. Pitch trace for lines A2–3.
2.2 Marked elevation in pitch and expanded F0 range—excitement

Chafe (2002:281) shows heightened involvement to be consistently expressed in English conversation by “heightened pitch and typically an expanded F0 range extending over the domain in question.” Couper-Kuhlen (1986:181) likewise reports that the prosodic structure of happiness in English includes a high pitch level and an increased, wide pitch range. Freese and Maynard (1998:199), similarly, write that “Good news deliveries” in English are likely to be spoken in the “upper part of the speaker’s pitch range” and “tend to span a wider pitch range than those in the bad news collection.”

Like English speakers, Quechua speakers also show excitement by heightening their pitch and expanding the F0 range. In (2), from a conversational narrative on a search for a lost donkey, Rita first gives names of three places she looked. Then she elevates the F0 on maytse: cruskaqpa tumaramu: She reaches a highly elevated peak on the first syllable of na:da, and expands the range of the F0 on na:da ni huk imanpis. This pitch pattern, together with the use of the historical present, helps to indicate that she is emotionally involved, that she is excited about what she is talking about.

The intensity trace shows that though the pitch is heightened, the intensity does not increase.

(2) Marked elevation of F0 and expanded range, excitement (D80) nada.mp3

79 Waroya-pa Acorma-pa Orqush-pa maytse:- crus-kaq-pa tuma-ra-mu:Ø:; Huaroya-GEN Acorma-GEN Orcush-GEN everywhere cross-DEF-GEN turn-PUNC-FAR-PRS-1
‘I make a pass PRESENT through Huaroya, Acorma, Orcush, everywhere, by the cross.

80 ↑na:da ni huk ima-n-pis. Ø nothing nor one what-3-EVEN PRS
Nothing is PRESENT there, not even its tracks.’
2.3 Lowered pitch and narrowing of range—shame and disapproval

Williams and Stevens (1972:1249) find that for English-speaking actors: “The average fundamental frequency observed for the actors speaking in sorrow situations was considerably lower than that for neutral situations and the range of F0 was usually quite narrow.” Couper-Kuhlen (1986:181) also reports that the prosodic structure of sorrow in English includes a low pitch level and a narrow range. Chafe (2002:298) finds that “negatively evaluated or discouraging speech” may be quoted with a “lowered baseline and a narrowed range” in English conversation.

In lines 27–29 of (3), Rita and Guillermo are finishing a topic of conversation. Then in line 30, Rita begins the abstract to a narrative centered on finding out who stole some belongings from a drunken person. Her tone, starting with suwaskapuya:na: ‘stole’, the last word of line 31, conveys hurt, shame, and disapproval. She lowers her pitch at that point and also narrows the pitch range as she tells what happened, using the narrative past. The pitch traces in figure 3 show the contrasting patterns. Lowering of pitch and narrowing the range, together with use of the narrative past, help to communicate the negative affect of shame and disapproval.

The intensity trace shows that though the pitch drops dramatically, the intensity is constant.
As Rita continued to talk about these events for the next minute and 50 seconds, her pitch stayed low and the range was narrow. When she finished, both she and Guillermo were quiet for a while. When she opened a new topic of conversation, her pitch range was about the same as it was before she started to talk about the theft.

(3) Lowered pitch and narrowed range—shame and disapproval (S31–33) shinqiruwan.mp3

27 R: Due to the alcoholic beverage (the night before),
on the main day of the festival
people greeted PAST the morning
all sprawled out,
sleeping in the corners.
30 R: And in addition um [word search] um,
31 they stole NARRATIVE PAST Walter’s shoes.
32 Also a man, Ernesto Garay’s son,
33 from him someone stole NARRATIVE PAST
his jacket and his poncho.

---

1 Names in the sound files have been muffled to protect the identities of the people. Names in the texts have been replaced by pseudonyms.
Work by Lieberman (1967) shows that pitch declines gradually as an utterance progresses. He claims that pitch is dependent on subglottal air pressure. Subglottal pressure tends to be low at the beginning of an utterance. It peaks shortly after the utterance onset and gradually declines after that. The illustration in figure 4 is from Lieberman (1967), as reproduced in Ohala (1977:148). The top trace is of fundamental frequency. The bottom one shows the subglottal pressure. We typically see this kind of a F0 decline across intonation units.
Figure 4 and the accompanying explanation are included in order to clarify that this is not the main thing happening in figure 3. Lines 27–29 comprise a whole grammatical sentence. The pitch range and height is about the same through the whole sentence. In lines 30–31, which is also a complete grammatical sentence, at the point when Rita utters the word suwaskapuyanana: 'stole', she drops the pitch and lowers the range. Her next sentence, with more details about the stealing, has lowered pitch and narrowed range.

2.4 Marked high pitch followed by drop—suspenseful apprehension

Example (4) comes from the complicating action of the folktale Achikay 'Witch'. Marked high pitch followed by a drop can be observed in the upper trace of figure 5.

The words aywayanqanya:qa chaskiptinga mikuskir ‘While the children were gone to get firewood, the witch eats the newly cooked potatoes’ in lines 60 and 61 are all pronounced with high pitch. The storyteller’s voice drops and the range narrows for line 62, qollutata wiñaparpuna: mankaman ‘then she pours round rocks into the pot in their place’. The elevation and then the drop in pitch and narrowing of the range, together with the use of the narrative past -na:, along with the content, all help to convey suspenseful apprehension.

The lower trace is the intensity trace. Though pitch is dramatically marked in this segment of speech, intensity is not at all marked.

I did not observe marked intensity in any of the speech segments with marked pitch patterns. This contrasts with what has been reported for English for emotion. Cooper-Kuhlin (1986:181) reports that intensity (loudness) is greater when the speaker is excited or happy and softer when the person is conveying negative affect such as sadness.

(4) Marked high pitch followed by drop—suspenseful apprehension (A60–62) aywayanqanyaaqa.mp3

60 While they went to look for firewood,
61 as soon as (the potatoes) were done,
62 she **poured** **NARRATIVE PAST** round rocks down into the pot.

60 ...Yantaku-q aywa-ya-nqa-n-yac:-qa,
look.for.firewood-PRMT go-PL.V-NMLZ.R-3-LIM-TOP

61 cha-ski-pi-n-qa miku-ski-r,
arrive-PFV-DS-3-TOP eat-PFV-SS

62 qolluta-ta wiña-pa-rpu-na: || ...manka-man.
round.rocks-OBJ pour-BEN-COMPL.-PST.N pot-ALL
3 Affect expressed through voice quality

In addition to pitch shifts, laughter, as well as marked voice quality, may be used together with verbal tense forms to help convey affect.

3.1 Laughter and smiling voice quality—excitement and happiness

What affect is associated with laughter? Is it positive or negative? Chafe (2007) proposes that the feeling behind laughter and humor has to do with *nonseriousness*, with *not being earnest*. “People may experience it as a reaction to situations that are unpleasant or abnormal as a way of mitigating the undesirability of such situations. But because people are always looking for ways to feel good, they have found many ways to elicit it deliberately, ways that constitute what we know as humor” (2007:13).

While many of the situations people react to with laughter are unpleasant or abnormal, laughter itself expresses a “good” feeling, one of pleasure. Laughter somehow downplays the uncomfortableness of a situation. It makes the situation seem lighter, not so serious.

In SCQ, laughter generally occurs together with the use of the present as a historical present, when the speaker is happy and excited. The climactic part of a conversational narrative related to Guillermo’s arrival to work occurs in (5). He and Rita use the historical present, and Rita laughs (represented with the @ sign) in several places. Guillermo had come to work three weeks late, and David and Debora could have been unhappy with him, but they were happy. Rita may be laughing to mitigate tension related to this situation that could have been difficult, but turned out to be fine. Another alternative is that she is laughing simply because she is delighted, happy about the reunion.
(5) Historical present, laughter and smiling voice quality—happiness and excitement (W32–40)
kushiykun.mp3

32 G: As soon as I go in I find **present** David.
33 He gets happy **present** too.
34 R: Very much so? @
35 G: Mrs. Debora too.
36 R: @@
37 G: They all get happy **present**
38 R: @Ah.
39 G: In my heart I also get even happier **present**
40 R: About the festival you don’t
even think **present** now@@@.

32 G: *Pas-a-ra-mu-r* don ...David-ta-qa tari-Ø-;,
pass-PUNC-FAR-ss Mr. David-OBJ-TOP find-PUNC-PRS-1
33 ...*Pa-pis kushi-yku-Ø-n*,
he-EVEN happy-PFV.O-PRS-3
34 R: *Allapa ka-q?* @
very be-AG
35 G: *Seño:ra [Debora-pis]*. 
Mrs. Debora-EVEN
36 R: [@@]
happy-PFV.O-PL.V-PRS-3 all-3
38 R: ... @ A =,
ah
39 G: *Noqa-pis kushi-ku-Ø-: shonqu-:-chu mas-ra;*,
I-even happy-MID-PRS-1 heart-1-LOC more-YET
40 R: ...*Fyesta-pa: ni yarpa-Ø-nki-na-pis-tsu*. @@@
festival-PURP nor think-PRS-2-NOW-EVEN-NEG

3.2 Glottal stop—suspenseful apprehension

In the *Achikay* story, the antagonist, the witch, is introduced in line 53 of (6). The glottal stop at the start of *Achikaylla* (represented by a percent sign) gives a special forceful quality to this word and sets it apart. This prominent glottal stop, in combination with the use of the narrative past, helps to communicate suspenseful apprehension at the introduction of this character.

(6) Glottal stop—suspenseful apprehension (A53) goshtaamuptinga.mp3

51 L: Then because smoke was rising over there,
“Come on,” they **said HABITUAL PAST**
to each other, “Let’s go” saying,
52 they **went. RECENT PAST**
53 The witch, **was NARRATIVE PAST**...there.
4 Summary

This study is an initial step towards describing how affect is expressed in a native language of the Americas. It shows ways pitch and voice quality can be used, together with content and verbal tense forms, to communicate positive and negative affect in South Conchucos Quechua discourse.

Indicators of involvement associated with positive affect (e.g., excitement and happiness) include use of the present tense as a historical present, marked elevation in pitch and expanded range, laughter, and smiling voice quality.

Indicators of involvement when the affect is negative (e.g., shame and apprehension) include use of the narrative past, lowered pitch with narrowed range, very high pitch across several words followed by an abrupt drop, and use of the glottal stop to create forceful voice quality.

Like English speakers, SCQ speakers use marked elevation in pitch and expanded range to communicate the positive affects of happiness and excitement and use lowered pitch and narrowed range with negative affects.

Unlike English speakers, SCQ speakers do not increase intensity with positive affect nor lower it with negative affect. Changes of intensity in relation to affect are not observable in SCQ.
References