

Intonation in Quechua: Questions and Analysis

Research on the suprasegmental system of Quechua has largely focused on the placement of stress within a word (Cerrón-Palomino 1987). Quechua is an agglutinating language which has a fixed location for primary stress. Most varieties, including Southern Peruvian Quechua, bear primary stress on the penultimate syllable and may show secondary stress on the initial syllable of a word. Other central-northern Peruvian varieties display primary stress on the initial syllable of the word and secondary stress on the penultimate syllable. This latter pattern may actually be a continuation of the original stress pattern of Proto-Quechua (1987: 259). Much less is known about other prosodic features of Quechua, such as intonation. However, knowledge of stress patterns is a useful starting point for intonation studies, since pitch accents are found to be associated with stressed syllables (Ladd 1996).

Previous descriptions of Quechua intonation found in the literature, which appear to be based on perception and knowledge of the language, offer a schematic representation of the intonation contour and/or offer a levels analysis using numeric notation (Cole 1982, Cusihamán 2001, Parker 1969, Samanez Flórez 1996). These descriptions show a single final peak followed by a fall at the end of an utterance (for both statements and questions). Prior to the final peak, the contour is considered to be relatively flat. A final rise is depicted in specific cases, such as in echo questions and in utterances with an emphatic suffix that also undergo a shift in stress to the final syllable. A noted exception to these impressionistic claims is the work by Hintz (2006) on the central Peruvian variety, South Conchucos Quechua. In her examination of primary and secondary stress patterns, Hintz finds that fundamental frequency most reliably determined where the stress would fall as perceived by native speakers, followed by intensity and then duration.

Notwithstanding these contributions, an examination of Quechua intonation within the current framework of Autosegmental Metrical (AM) phonology is needed in order to establish the basic units of intonation employed in Quechua, including pitch accents and boundary tones. In order to offer a preliminary sketch of Quechua intonation using the AM model, data from field recordings in Cuzco of Southern Peruvian Quechua have been segmented and analyzed using the Praat speech analysis software (Boersma & Weenink 1992-2007). The recordings were made using two types of elicitation: a picture description task and semi-spontaneous conversation. The data described here are from ten male Quechua speakers, ages 20-39, who were enrolled in or had completed post-secondary education. Five were native Quechua speakers who had learned Spanish simultaneously while growing up while the other five learned Spanish later in life upon entering the school system. A total of 87 declaratives and 53 interrogatives were extracted for analysis.

This paper attempts to address several key issues related to Quechua intonation research, including the following questions: 1) In a given word, where does the pitch accent associated with primary stress occur (with the penultimate or initial syllable?); 2) Is there another pitch accent associated with secondary stress?; 3) How many pitch accents occur per utterance and is there downstep?; 4) What elements may receive a pitch accent?; 5) Are pitch accents monotonal or bitonal?; 6) Is there displacement of rises?; 7) Are different pitch accents used along with the morphological marking of topic and focus?; 8) Do compound words show one pitch accent or two? 9) Do questions marked morphological show a higher final peak than declaratives?; and 10) What types of boundary tones may be observed? (e.g., Are final rises observed for certain utterance types?).

A brief summary of the preliminary findings for Cuzco Quechua are given here. First, Cuzco Quechua does show a pitch accent associated with the penultimate syllable. Second, in some words with more than three syllables, a slightly higher pitch may be detected on the initial syllable. Third, multiple pitch accents are found within a given utterance. In these cases,

downstep of peaks was frequently observed (63%), although lack of downstep (28%) and upstep of the final peak (9%) were also found. Fourth, pitch accents appeared with nouns, verbs, adjectives, adverbs, numerals, demonstratives and question words. Fifth, the most common pitch accent included a peak (H), which was often preceded by a valley (L). Therefore, some pitch accents appear to be monotonal H* whereas others are bitonal. Sixth, the peak was aligned within the stressed syllable for all words in utterance-final, nuclear position (100%) and for most words in non-final, prenuclear position (86%). Thus, the bitonal pitch accent could be described tentatively as L+H* with the * showing both association and alignment of the high tone within the stressed syllable. Seven, while tokens of morphological marking of topic (suffix *-qa*) and of focus (suffix *-mi/-m*) are found in this data set, no distinct contour appears to be employed. Eight, compound words show a pitch accent on the second element of the compound only. Nine, the final pitch accent in questions does not appear to be higher than in declaratives (as is described in the literature), although a more detailed analysis of declarative-question pairs is needed. Ten, final rises were observed in questions, including in echo questions, tag questions, and questions containing an emphatic marker that results in shift of stress to final position. However, the majority of questions, including pronominal questions and yes/no questions marked with the interrogative particle *-chu* still ended in a fall. The boundary tones of L% would then be assigned to both declaratives and interrogatives, with H% being reserved for those more marked cases previously mentioned. Also, there is some indication that intermediate phrase boundary tones (Ḷ) and (Ḥ) may need to be postulated to explain some of the contours observed. Figures 1 and 2 below are examples of these findings. As I show in this paper, analysis of Quechua intonation may provide additional data in the cross-comparison of intonation systems and also aid in the task of applying the principals of the AM model to less-commonly studied intonation systems.

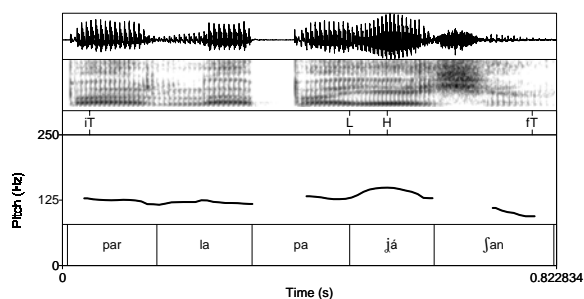


Fig. 1: Pitch accent on stressed syllable
 parla-paya-chka-n
 speak-PART-PROG-3SG
 ‘He is talking (participating in the conversation)’

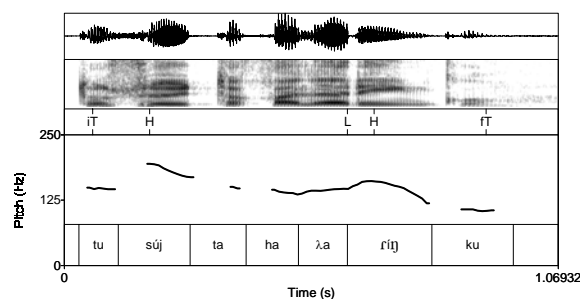


Fig. 2: Prenuclear and nuclear tonic-aligned peaks.
 tusuy-ta qallari-nku
 dance-ACC begin-3PL
 ‘They begin to dance’

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