

The Intonational Phonology of Samoan

We present a model for the intonational phonology of Samoan in the autosegmental-metrical framework (Pierrehumbert 1980, i.a.). This contributes to cross-linguistic work on the typology of prosodic systems, which includes little research on Austronesian languages. Moreover, the complex morphosyntax and ergative case-marking of Samoan make it a rich case study for the prosody-morphosyntax interface in the intonational systems of ergative languages.

Previously, discussion of Samoan post-lexical intonation was limited to a brief description by Mosel and Hovdhaugen (1992). To our knowledge, our study is the first systematic investigation of Samoan intonation. It is based on fieldwork with one native speaker of Samoan from Apia, Western Samoa, recorded weekly in a sound booth over the past year. Hundreds of utterances were elicited in the formal register, representing a wide range of structural environments, including declaratives, and Y/N and *wh*-interrogatives of varying syntactic complexity and word order. These utterances were segmented and annotated for intonational events using ToBI conventions (Beckman and Hirschberg 1994).

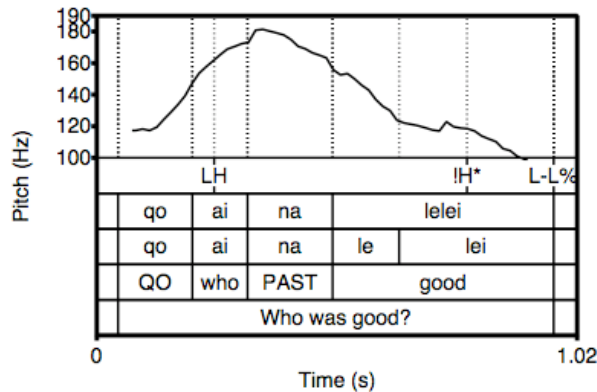
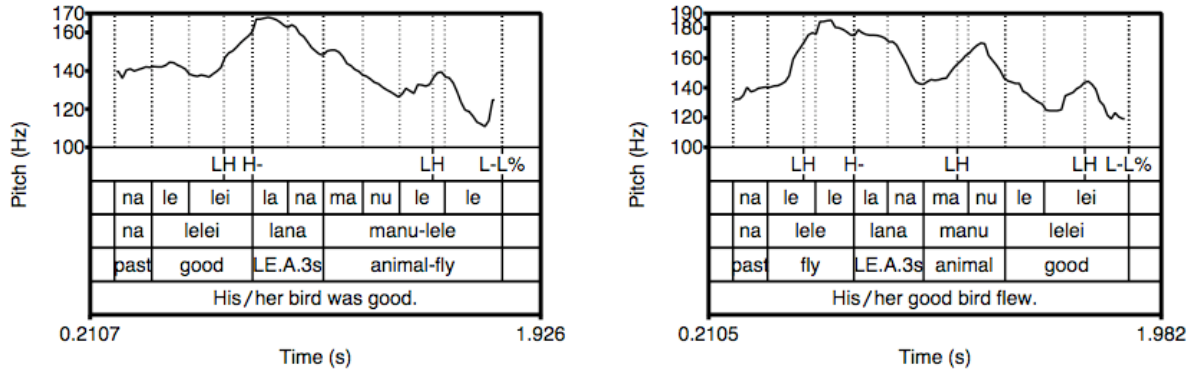
In the autosegmental-metrical framework, F₀ contours are represented as linear sequences of phonologically specified tones associated with pitch accents and boundaries; prosodic units are arranged in a prosodic hierarchy. Cross-linguistically, some languages mark postlexical prominence with stress-driven pitch accents, e.g. Germanic languages, while others mark it with edge tones at the boundaries of prosodic units e.g. Korean (Jun 2005). We propose, like Mosel and Hovdhaugen (1992), that Samoan is of the former type, with stress-driven pitch accents. However, following work by Zuraw et al. (2008), we propose that the tone bearing unit is the mora, rather than the syllable. The basic stress system is assigned with right-aligned moraic trochees, with long vowels and diphthongs counting as heavy moras (1). Primary stress is realized with a rising low-high (LH) pitch accent over the mora receiving primary stress, while the intonational realization of secondary stress is optional and inconsistent (Figs. 1a and 1b).

In our account, the basic intonational pattern of typical VSO declarative sentences consists of a series of these LH rises on content words, with F₀ declination throughout the utterance, ending with sentence-final low boundary tones (marked as L-L%). Interrogatives show a different pattern, which Mosel and Hovdhaugen (1992) propose is due to the absence of the nuclear pitch accent, and an utterance-final contour with low tone on the last two to three syllables. We provide evidence that the nuclear pitch accent in interrogatives is *not* absent, but is represented by a downstepped high (!H*), rather than the LH seen in declaratives. Furthermore, as in declaratives, this nuclear pitch accent is predictably realized over the mora receiving primary stress in the interrogative-final word (Fig. 2). Both Y/N and *wh*-interrogatives share this intonational pattern, but differ in the overall pitch range over the utterance; Y/N interrogatives show a higher overall pitch range than *wh*-interrogatives and declaratives.

In addition to a pitch accent inventory of LH and !H*, we propose that Samoan has high boundary tones (H-) and low boundary tones (L-,L%), and at least two prosodic units above the prosodic word: the Intermediate Phrase (ip) and Intonational Phrase (IP). The low boundary tones occur at the end of most sentences, while the high boundary tone occurs: (1) at the left edge of absolutive DP arguments, (2) before the conjunct in coordinated phrases, (3) between the subject DP and the tense head in sentences with SVO order, and (4) at the end of sentences that are echo questions or that express surprise. We discuss this behavior as evidence for the interaction between Samoan intonation and case-marking, syntactic structure and pragmatics.

(1) Minimal pair showing that TBU in Samoan stress is moraic, not syllabic

- a. Na le(**léi**) lana (mànu)-(**léle**)
 past good LE.A.3s animal-fly
 ‘His/her bird was good.’
- b. Na (**léle**) lana (mànu)- le(**léi**)
 past fly LE.A.3s bird Good
 ‘His/her good bird flew.’



References

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