The representation of contour tones in Cantonese

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Introduction: A central question in tonal phonology is the representation of tone. For Chinese languages, while discussion focuses on contour tones, recent analyses such as Yip (2001) and Barrie (2007) propose that the contour tone be a unitary entity with the tone register specified as well as only the tonal onset. This paper argues, however, that this cannot be the case for Cantonese. In particular, we show that the correct representation of contour tones in Cantonese is one where tonal targets of *both* onset and offset are specified.

Pop music and reference to tonal offsets: In Cantonese pop music lyrics, two pairs of tones, 55/25 and 33/23, pattern together by their tonal offsets (Chan 1987, Ho 2006). Regarding the 55/25 pair, Yip's proposal of tonal representation would suggest that high-rising 25 be [+Upper, L(ow)] with the rise being the unspecified 'rebound' to H(igh); high-level 55 is presumably [+Upper, HH]. It is unclear, however, how the patterning of the tonal pair 55/25 would fall out from these representations, when the two tones share no common L/H specifications. The problem vanishes if tonal offsets of contour tones are also specified.

High-rising tone and [±Upper]: An issue related to the high-rising tone is its phonetic manifestation. On the one hand, Bauer & Benedict (1997) find that the non-derived high-rising tone 25 and low-rising tone 23 share an acoustically similar tonal onset. On the other, Yu (2007a,b) shows that the non-derived high-rising tone 25 and the derived high-rising tone 35 resulting from lexical tone 33 (e.g. si33 'try' → si35 'try (perfective)') are in fact acoustically differentiable. In the spirit of a closer phonetics-phonology mapping supported by Yip, if low-rising 23 has all its tonal trajectory within [−Upper], then high-rising 25 should begin in [−Upper] but have [+Upper] to accommodate its high tonal offset. However, this is disallowed in Yip and Barrie's system, because they both propose that [±Upper] be a feature of an entire contour tone. The solution is to have both tonal onsets and offsets specified separately for [±Upper].

Tonal alternation in attenuatives: Tonal alternation in Cantonese presents another problem to Yip and Barrie's analysis. The issue is most clearly illustrated in attenuatives, where the second reduplicative copy ends with a high tone:

(1) Cantonese attenuatives

  a.   syn55 'sour'   → syn55 syn5<u>5</u> teɪ25   d.   hʊŋ21 'red'   → hʊŋ21 hʊŋ2<u>5</u> teɪ25

  b.   jiu25 'girly'   → jiu25 jiu2<u>5</u> teɪ25   e.   kʰɐn23 'near' → kʰɐn23 kʰɐn2<u>5</u> teɪ25

  c.   tsʰi33 'similar' → tsʰi33 tsʰi3<u>5</u> teɪ25   f.   kuɣ22 'tired' → kuɣ22 kuɣ2<u>5</u> teɪ25

The unified analysis for tonal alternation in (1) is a floating-tone analysis as in Yip (1980) and Chen (2000). Essentially, with the assumption that both tonal onset and offset are specified, a floating high tone docks to the right of the syllable concerned and leads to the deletion of the tonal offset of the original tone; this applies vacuously to (1a-b). With Barrie's representations of Cantonese tones, for instance, it is puzzling as to how a unified analysis for (1) could be advanced. Specifically, if the high-rising tone (derived or not) were [+Upper, L, Contour], where 'Contour' is a feature analogous to Yip's rebound, how then could a single analysis (i) derive [+Upper, L, Contour] from the non-derived tones 33, 21, 23, and 22 in (1c-f) which are all formally distinct in terms of [±Upper], L/H, and Contour features, as well as (ii) deal with the non-derived tones 55 and 25 in (1a-b) as if they were unaltered? The upshot is, again, that Cantonese contour tones should have two separate tonal targets.

Conclusion: While we argue for the need of specifying both tonal onsets and offsets for Cantonese contour tones, this paper stresses the important methodological point that individual Chinese languages should be studied *solo* without the presumption of 'Universal Chinese Grammar' (Yue-Hashimoto 1993, Matthews 1999).