Perception of Thai tones in sentence medial and final positions
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The Thai language employs five lexical tones (Abramson 1962), as well as distinct sentence-level intonational patterns, such as a raised, narrow pitch range for questions and final fall for statements (Luksaneeyanawin 1998). Previous production studies, including Abramson (1979a), which included an analysis of the speech of three speakers, has shown that the realization of lexical tones differs across intonational patterns. However, the perception of this variation has not been closely studied. This in-progress study investigates how Thai speakers identify and discriminate tonal words in two different intonational environments.

The study includes two categorical perception tasks: an identification task and a discrimination task. Both involve stimuli that were spoken by a female native speaker of Thai. Target words were recorded in sentence frames, extracted, and then manipulated to form a nine-step continuum. The endpoints for the stimulus continuum were real words with a high level tone (step 1) or a high falling tone (step 9). In the identification task, adult native speakers of Thai listen to sentences containing a target word in either sentence-medial or -final position and choose between two pictures depicting the two alternative words. In the ABX discrimination task, the same participants hear a sequence of three sentences and decide whether the third stimulus (X) was the same as the first (A) or the second (B). Stimuli A and B contained target words that were one step apart, and all three stimuli (A, B, and X) were presented with an ISI of 500ms. An ISI of 500ms was chosen because it facilitated a natural (not rushed) delivery of the stimulus sentences. However, the time between target words was actually 2000ms in the sentence-final condition and 3000ms in the sentence-medial condition due to the content of the sentence frames.

Previous work investigating the categorical perception of lexical tone has shown both continuous and categorical perception of tones (Abramson 1979b and Francis et al. 2003, respectively). In the 1979 discrimination study, Abramson presented participants with words one or two intervals apart on a sixteen-step continuum representing canonical low, mid, and high register tones. Participants were not able to discriminate tones, perhaps because they were unable to process the register tones out of context. In the 2003 study, Francis et al. presented participants with three tone-pair continua in Cantonese: low level to high level, high rising to high level, and low falling to high rising. Their findings were that tones are perceived categorically, with strong evidence from their identification tasks and weaker (but not contradictory) evidence from their 2IAX discrimination task. This study presented target word tokens both within and out of sentential contexts.

Sentential contexts are key to the design of the current study. Investigating how listeners perceive tonal words in different intonational contexts can offer insight into both the degree to which intonational contours affect the phonetic integrity of lexical tones and also the mechanism with which language users process suprasegmental information. For example, results may show that there is a clear categorical boundary on the stimulus continuum, which reveals the tolerance for deviation from a canonical lexical tone in citation form, shedding light on the relative weights of tone versus intonation in the interactional relationship. Results may instead be more continuous, perhaps meaning that listeners rely on cues other than pitch to disambiguate minimal pairs, such as voice quality or context.