Tone Neutralization in Thai Disyllables of the Type CV(?)-

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1. The present study elicited data from some 30 native speaker informants (21 female, 9 male) who were students of English at a major public university in Bangkok during the summer of 2012. Each informant performed four different tasks that were designed to study how they pronounced the initial syllable of Thai disyllables that contained /a/with either a high or a low tone in the citation form. Their responses were digitally recorded with audacity software and later analyzed using praat.

2. Data were gathered using the following four tasks:

1) In one task, informants were shown a series written words via powerpoint and were asked to pronounce the word before the slide changed automatically after five seconds. The list included 16 disyllables with five decoy words consisting of monosyllabic words or compound words were included at random.

2) In the second task, informants were once again shown a powerpoint that advanced automatically every five seconds. Each slide contained a picture of an object and informants were asked to name the object or concept in the picture before the slide advanced. Once again there were 16 disyllables intermixed with five decoy words.

3) In the third task, informants were given a list of the 16 target disyllables to look over for a period of 60 seconds. The list was then taken away and informants then waited for 60 seconds before they were asked to say as many of the target disyllables as they could remember in 60 seconds.

4) In the fourth and final task, speakers were given a narrative text written in Thai that incorporated all 16 disyllabic words. The text was taken away and after waiting two minutes, the informants were given two minutes to retell the story in their own words.

Informant responses for all tasks were recorded using audacity software so that they could be analyzed using Praat.

Figure 1: Vowel Reduction among females

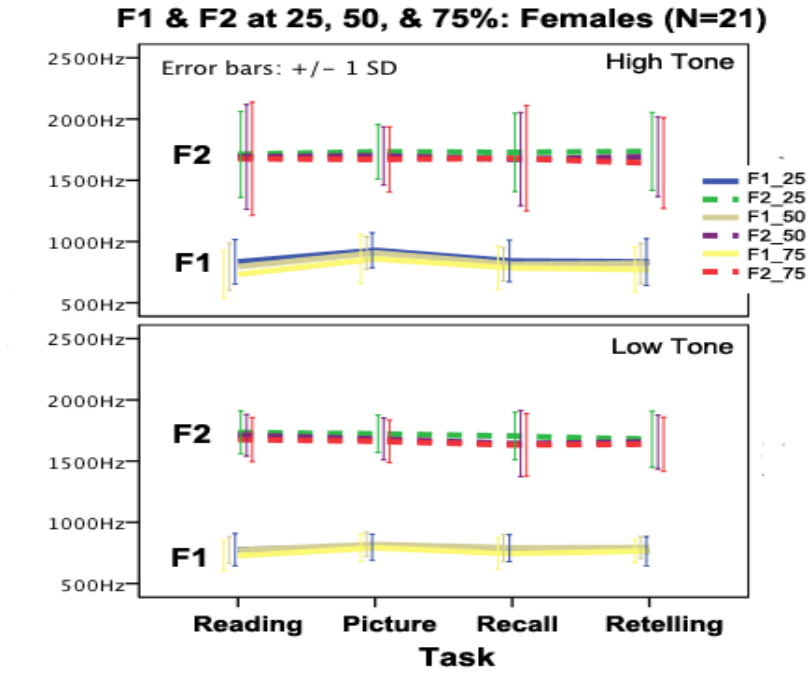
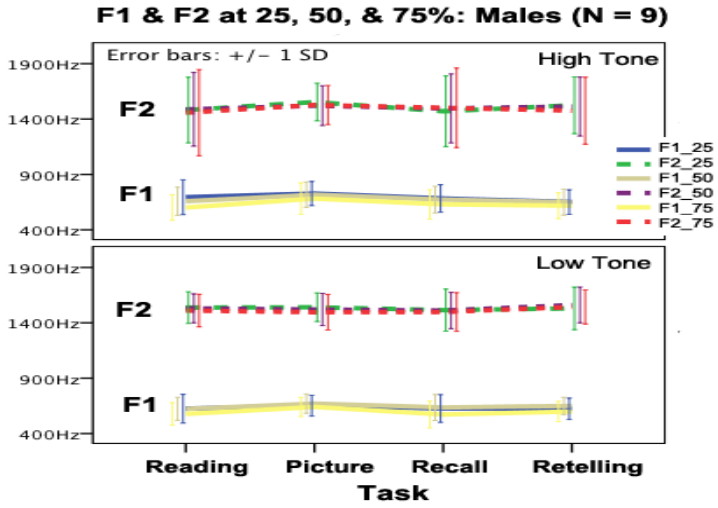


Figure 2: Vowel Reduction among males



Male informants also did not show a substantial reduction of /a/ to [ə]. If the vowel /a/ had reduced and centralized in the direction of [ə], we would expect the frequency of F1 to have decreased., but F1 remains relatively flat, suggesting that /a/ has not substantially risen and centralized.

2) Neutralization of tone: Measurements of F1 were taken at 25% into the subject vowel's duration. Measurements were also taken halfway into the vowel's duratioin (50%) and 75% of the way into its duration as a point of comparison.

Figure 3 shows the average frequency of F0 of high and low tones when spoken by female informants in the four study tasks. High tones and low tones are still distinct but the distance between F0 during Task 2 (picture identification) and Task 3 (recall) are the greatest.

Figure 3: Tone neutralization among females

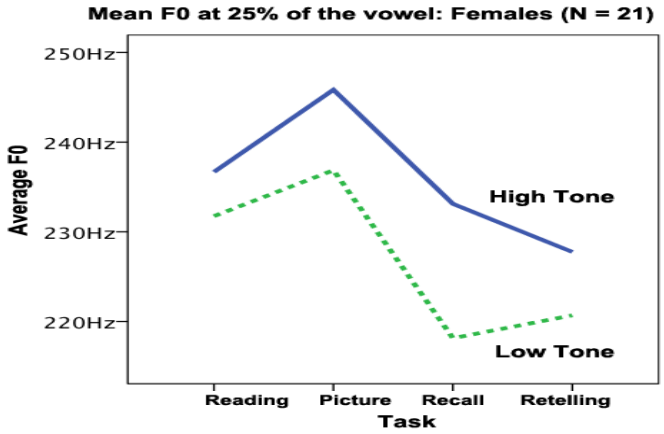


Figure 4: Tone Neutralization among males

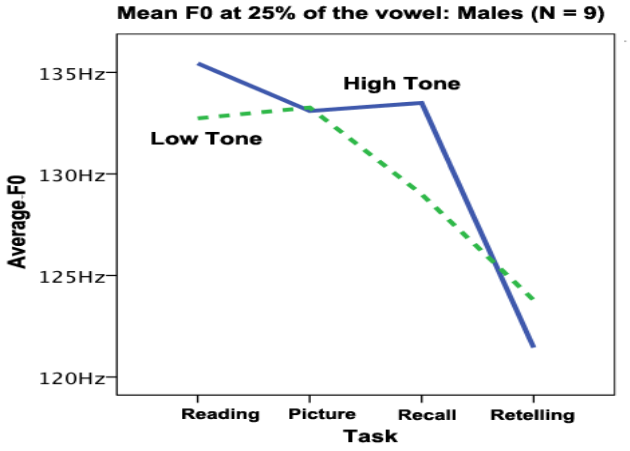
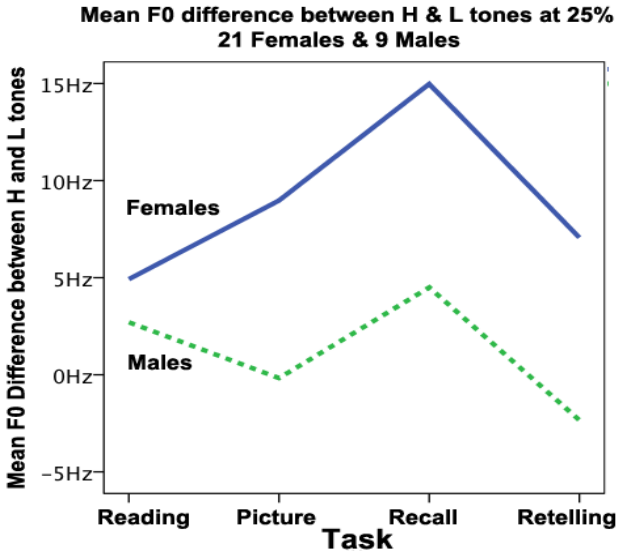


Figure 4 illustrates neutralization is more common among males. Their tonal contrasts was greatest in tasks 1 and 3.

Figure 5: Comparison of female and male tones



Discussion:

1) The paucity of the glottal stop in our data suggest that the variant without glottal stop is now perhaps less common than was the case just a few decades ago, or that earlier researchers inadvertently over-reported the occurrence of glotta stop.

2) The greatest average difference between the high tone and low tone frequencies of the female informants took place in tasks two and three. Task two asked informants to identify pictures spontaneously. Task three showed informants a list of written words (mostly disyllables) and asked them to recall as many of the words as possible.

Conclusions:

The data do not support our original hypothesis that the pronunciation of disyllables from written cue words would trigger a careful, citation-like pronunciation. comparable to Gandour's isolative speech tempo. In fact, in task 2 where informants received an unwritten cue such as an image, or in tasks in which there was a built-in memory task that required the informants to recall the cued words after a time delay, the pronunciation of /a/ was tonally distinct. It was less distinct in tasks where the informants were given written cues (task one) or in tasks that contain the recall of a written text. Overall, orthographic cues seem to play a much less important role in triggering the pronunciation of distinct tones in the initial syllable of non-final disyllables.

We speculate that the high-low tonal distinction in the unstressed first syllable of Thai disyllabic words remains an underlying distinction, not an artificial one, but the amount of neutralization that occurs differs among speakers and according to context. The most surprising result is that the reduction of /a/ to /schwa/ appears not to be as prevalent as commonly assumed. We speculate that speakers may perceive short /a/ as a schwa-like vowel in this context because /a/ may be further shortened in this unstressed position.

References

Bowen, Gordon H. 2000. A brief history of memory research. In the Oxford Handbook of Memory, ed. by Endel Tulving and Fergus I.M. Craik, 3-32. Oxford: Oxford University Press.

Gandour, Jack. 1975. On the Representation of Tone in Siamese. Studies in Tai Linguistics in Honor of William J. Gedney, ed. by Jimmy G. Harris and James R. Chamberlin, 170-195. Bangkok: Central Institute of English Language.

Gandour, Jack. 1976. A reanalysis of some phonological rules in Thai. *Tai Linguistics in Honor of Fang-Kuei Li*, ed. by Thomas W. Gething, Jimmy G. Harris, and Pranee Kullavanijaya, 47-61. Bangkok: Chulalongkorn University Press.

Higbie, James and Snea Thinsan. 2002. Thai reference grammar: The structure of spoken Thai. Bangkok: Orchid Press.

Iwasaki, Shoichi and Preeya Ingkaphirom. 2005. Reference grammar of Thai. Cambridge: Cambridge University Press. P.6

Li, Fang Kuei. 1977. Handbook of comparative Thai. Honolulu: University of Hawaii Press.

Peyasantiwong, Patcharin. 1986. Stress in Thai. Papers from a Conference on Thai Studies in Honor of William J. Gedney, ed. by Robert Bickner, Thomas Hudak, and Patcharin Peyasantiwong, 211- 230. Ann Arbor: University of Michigan Press.

Rohrer, Josef. 2008. Concise Thai-English dictionary. Bangkok: Windows on the World Publishing.

Smyth, David. 2002. Thai: an essential grammar. London:Routledge.

Tingsabadth, M.R. Kalaya and Daranee Deeprasert. 1997. Tones in Standard Thai Connected Speech. *Southeast Asian Linguistics Studies in Honor of Vichin Panupong*, ed. by Arthur Abramson, 297-308. Bangkok: Chulalongkorn University Press.

Zsiga, Elizabeth and Rattima Nitisaroj. 2007. Tone Features, Tone Perception and Peak Alignment in Thai. Language and Speech 50 (3). 343-383.

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