HOW USEFUL ARE CITATION FORMS IN SYNCHRONIC THAI PHONOLOGY?

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Citation forms are clearly part of language, but their role in speech is a dubious one. Language in its direct communication function does not always behave as it should. Consider the following English conversation fragment.

A: Choose a letter of the alphabet.
B: /way/.
A: Now pick a number.
B: I didn't say /way/, I said /hway/.
A: Oh. It's just a game, that's all.

Of course, B *did* say /way/ originally. Furthermore, we know that B's citation form for "Why?" is /hway/. Why then didn't he use it in the first place, instead of using his citation form for the letter "Y"? Was he too lazy to devoice the first segment of the labiovelar just in this one instance, or is this his normal way of speaking? To make matters worse, we still don't know the phonetic shape of A's citation form for "Why?"--only that he recognizes /hway/ when he hears it.

There are a number of ways in which a competent phonologist, whether of the structural, generative, or traditional school, could account for the above conversation. Different theoretical orientations would yield different results, of course, but each could provide a satisfactory interpretation of the relation between the citation form /hway/ and the variant /way/. None, however, could account for the variant unless someone had *heard or recorded it* in this kind of context in the first place.

A major point of this paper is to show that too little recording of word variants in Central Thai is being done by synchronic phonologists, and that far too much reliance is being placed on citation forms.

Historical and comparative Tai phonology must obviously confine itself, for the most part, to citation forms of individual words, because the typical investigator has little enough access to data on the actual forms of lexical items as uttered in connected discourse by living speakers, and none at all, except by inference, to those preserved in written records. Citation forms are even useful in pedagogy. For example, they can help to establish tone, consonant, or vowel contrasts more easily for the foreign learner. They provide a better basis for decoding the writing system than the actual forms of running speech could ever do. Whatever the frequency of true citation forms in connected Thai discourse is, therefore, such forms are well worth investigating in their own right.

But the skilled teacher of Thai as a foreign language does not normally confine his instructional models to citation forms, and the historical phonologist is grateful for any information he can get about variant pronunciations of individual words, whether or not conditioned by occurrence in longer utterances. Obviously, the investigator of synchronic Thai phonology should be even more concerned with running speech forms than the teacher or the Tai philologist. Yet in too many cases he ignores them, and concentrates on the more easily described citation forms.

In the special case of the experimental phonetician, this neglect is understandable, because he finds it much more practical and productive to apply his rigorous methods to single words, phrases and short sentences in the citation mode, as opposed to long communication exchanges among native speakers. But the non-instrumental phonetician has no such excuse.

As it happens, pure citation forms are surprisingly rare in running Central Thai speech. The faster the tempo, the less frequent they become. But the chief "distortion" factor affecting citation forms, the one that yields the most predictable variants, seems to be rhythm rather than tempo. Rhythm interacts with vowel quantity and quality, stress, tone, and even consonant articulation in various ways, yet it is one of the least studied aspects of Central Thai prosody.[1]

1. Vowel Quantity

There is no single aspect of descriptive Thai phonology which illustrates the questionable validity of citation forms better than vowel quantity. Every synchronic description of Central Thai by linguists[2] specifies a long-short distinction for the nine basic vowel phonemes in citation forms. Although phonemic treatments of vowel lengths differ--e.g. /aa/ or /a:/ for the long version of /a/; /a̯/ or /ă/ for the short version--there is no disagreement about the facts of vowel quantity in minimal pair situations. Abramson (1974) has made an experimental study which seems to confirm this analysis. His data show a constant ratio of about 2.5 between long and short versions of the same vowel, with clear separation between the two ranges. But this applies only to citation forms.[3]

Two factors muddy up the vowel quantity picture when we come to forms in running speech. The first is a failure by some phonologists to discriminate between (unpredictable) lexical variants and (predictable) phonological variants. Thus the often-cited example of น้ำ "water," which is pronounced /ná:m/ by itself but /nám/ in compounds like น้ำมัน "oil," tells us nothing about what happens to ร้าน "store," which also has a long vowel /a:/ and high tone in isolation: /rá:n/. As a matter of fact, the vowel of /rá:n/ *does* get shortened in compounds in a predictable way, but not as much as the vowel of /ná:m/. A "phonological rule" which applies to only one, or a small set of lexical items need not concern us here. We are interested in

rules which are applicable to syllables, or sequences of syllables, under clearly stated phonological conditions.

A second confusing factor is that the long-short vowel distinction is not only relative, like all quantity distinctions, but the basis of vowel length comparison may extend over only a short span—a phrase, or rhythmic unit—rather than over a whole utterance. For example, the compound ผู้หญิง "woman, female" has a citation form /phû:yǐŋ/, in which the vowel of the first syllable is absolutely longer than the vowel of the second. But almost any occurrence of the compound as a constituent of a longer phrase calls for automatic syncopation of the first syllable. Thus in เด็กผู้หญิงพูด "girls spoke" /dèk phû yǐŋ phû:t/, even if the "long" vowel of /phû/ is still perceptibly longer than the "short" vowels of /dèk/ and /yǐŋ/, it is apt to be much closer in quantity to those vowels than to the genuinely long vowel of /phû:t/. It would be extremely arbitrary to say, on the basis of quantity comparison over a longer span or a whole utterance, that the vowel of /phû/ is "long."

Two recent experimental studies of vowel length in Central Thai shed some light on this second source of confusion. Abramson (1974, 82), besides comparing minimal pairs in the citation mode, sampled vowels chosen at random from an unrehearsed narration. He found that his 2.5 ratio between corresponding long and short vowels of citation forms still held up, but that the actual ranges of duration now overlapped: 35-120 milliseconds for the short vowels versus 110-300 for the long ones. Recognizing that a more thorough study of the long-short contrast would require attention to environmental conditions, including rhythm, Abramson considers these results "striking" (presumably, surprising in the sense that he had expected a change in the ratio and a much greater overlap).

In a study published earlier, Sittachit (1972) found an average ratio of 1.75 between long and short /a/ in minimal-pair citation forms. The discrepancy between this ratio and Abramson's 2.5 is probably explained by the fact that about half of the latter's minimal pairs involved final stops, while Sittachit had only one such pair (ratio 2.6) in her shorter list. (Her single pair of vowels, as against Abramson's six pairs, may also have been a factor.) Sittachit's long and short /a/ ranges did not overlap in citation forms: 130-330 milliseconds for /a/ as against 340-450 for /a:/. These figures should be compared with Abramson's 60-150 to 160-330 in a carrier sentence. Although the presumed faster tempo of the carrier-sentence frame reduces both the long and the short vowel duration ranges, note that the gap between the ranges is identical with Sittachit's: 10 milliseconds.

So far, the experimental results suggest support for the thesis that we need to know only the tempo of the utterance to establish relative vowel quantity as a feature of Central Thai. Even Abramson's small overlap in running speech can probably be accounted for in this way. The experimental data on vowel quantity to this point can be summarized as follows:

Inferred Tempo	Example	Short Vowel Range	Long Vowel Range	Ratio
Slow	Sittachit's citation forms	130-330	340-450	1.75
Medium	Abramson's citation forms (in carrier sentences)	60-150	160-330	2.5
Fast	Abramson's random sample (in running speech)	35-120	110-300	2.5

When we consider the second part of Sittachit's study (1972, 30-31), however, we see that tempo will no longer serve as a conditioning factor for the variation in absolute range. Three of the original minimal long-short pairs were placed at the beginning of short sentences, and the vowel durations were re-measured. In spite of the fact that the pairs still had some of the characteristics of citation forms (since speakers, no matter how unsophisticated, could hardly remain unaware of the intended contrast as they pronounced otherwise identical sentences), the results were now as follows:

Short Vowel Range	Long Vowel Range	Ratio
130-190	160-250	1.5

The reduced ratio is not really a problem. After all, it is conceivable that a length distinction could be maintained with an average ratio of only 1.5. But the overlap of 30 milliseconds in the ranges of supposedly long and short vowels *in parallel contexts* cannot be shrugged off. For example, the "short" vowel of /khàw/ in /khàw khǒ:ŋ khraj/ "Whose knee?" was found to be longer in absolute terms (190 msec) than the "long" vowel of /khǎ:j/ in /khǎ:j na:lika:/ "sell watches" (160 msec). Since /khàw/ occurred in a phrase of three syllables, and /khǎ:j/ in a phrase of four syllables, rhythm rather than tempo is suggested as a determining factor.

As Sittachit puts it, "The duration of any vowel depends on *its phonetic environment*." We need only to expand and qualify this observation in terms of rhythmic analysis[4] in order to state the crucial point: "Apart from citation forms, the judgment of a vowel as long or short cannot be made without reference to the duration of the entire syllable in which the vowel occurs in comparison with the duration of neighboring syllables."

This assumption, if verifiable, would account not only for the overlap noted by Abramson for vowels in running speech, but also for the surprising fact that his 2.5 ratio remained unchanged. That is, in a sample much larger than Sittachit's, the differences would tend to average out: rhythm factors should yield just as many super-short vowels as long vowels reduced in length, and just as many extra-long vowels as stretched short ones. Thus the essential vowel quantity distinction recognized by all synchronic descriptions of Central Thai could be maintained, perhaps, by specifying that the duration of