

# *Tone Alternations in Ugong (Thailand)*

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## Introduction

Ugong is a Tibeto-Burman language of the Burmic subgroup spoken by a small and diminishing minority in western Thailand; for details of the social factors involved in this decrease, see Bradley (1981, 1985, 1989).<sup>1</sup> It is in the process of being replaced by Thai, an unrelated language, which is quite different in its morphosyntax. The phonology of Ugong has been undergoing rapid change and dialect diversification; many of the changes have resulted in convergence of Ugong phonology towards that of Thai. I have discussed the dialect diversity (1978), and I have shown that the phonological convergence of Ugong towards Thai has been underway for a long time and is resulting in the elimination in native lexicon of segments and tones absent from Thai as well as the addition of segments and tones that are present in Thai (1986).

Another very interesting phenomenon concerns tonal alternations in nouns and verbs; these complex processes differ between form classes and are in the process of being fossilized or eliminated in the speech of semi-speakers. The end result is a tone system identical to that of Thai, without the alternations, which are not paralleled in Thai. The data are drawn from the speech of the Kok Chiang Ugong village; other dialects operate slightly differently. Kok Chiang Ugong has five underlying tones for native verb lexical items, and four for nouns and others; these are compared with the five tones of standard Thai in table 1.<sup>2</sup> For more details of Ugong segmental phonology, see Bradley (1981, 1986).

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<sup>2</sup> As in most Tibeto-Burman languages, adjectives are a subclass of verbs in Ugong.

**Table 1: Ugong and Thai Underlying Tones**

Transcription	Ugong Nouns	Ugong Verbs	Thai
ˊ	high level	high level	high level (creaky)
∅	mid level	mid level	mid level
ˋ	low falling	low falling	low falling
ˊˊ	mid rising	mid rising	mid rising
ˋˊ		high falling	high falling

The secondary nature of the Ugong high falling tone for verbs will be discussed below; Bradley (1986) suggests that the mid rising is also secondary, though now well-established. Recent Thai loanwords retain their Thai tone; hence, many borrowed nouns have a high falling tone.

There are canonical restrictions on tones on stop-final syllables, which are outlined in Table 2; exceptions occur in loanwords.<sup>3</sup>

**Table 2: Ugong and Thai Tones in Stop-final Syllables**

Transcription	Ugong Nouns	Ugong Verbs		Thai
		final /k/	final /ʔ/	(all stop-finals)
ˊ	high level	high level	high level	high level
∅	mid level		mid level	
ˋ	low falling	low falling	low level	
ˋˊ		high falling	high falling	high falling

It can be noted that in any form class for native lexicon only three tones contrast in stop-final syllables; and that in Ugong the possibilities differ between nouns and verbs, and between verbs with final /k/ versus /ʔ/. This tonal difference between form classes is not unusual among Burmic languages; a similar example for Atsi is described in Burling (1967). It is also not phonetically implausible since Ugong, like nearly all Tibeto-Burman languages other than Karen, is verb-final; therefore, sentence-final intonation effects may influence verbs but not usually nouns.

### Nominal Tone Sandhi

For nouns, there is a sandhi process in which a final syllable with underlying low falling tone in a two- or more syllable noun is phonetically

<sup>3</sup> In Ugong native lexicon, only /k/ and /ʔ/ occur in final syllables; in Thai, only /p/, /t/, /k/, and /ʔ/.

high falling. This process is not recursive; it applies to derivational suffixes if these are word-final but not to inflectional ones. This is illustrated in examples 1 to 6.

- |                         |               |                    |
|-------------------------|---------------|--------------------|
| 1. /lá?phu/—>           | [láphû]       | 'areca'            |
| 2. /lá?phû+ca/—>        | [lá?phûca]    | 'areca leaf'       |
| 3. /lɔ?+mâ/—>           | [lɔ?mâ]       | 'thumb'            |
| 4. /lɔ?+mâ+dâŋ/—>       | [lɔ?mâdâŋ]    | 'big thumb'        |
| 5. /lɔ?+mâ # nɔŋ/—>     | [lɔ?mânɔŋ]    | 'on the thumb'     |
| 6. /lɔ?+mâ+dâŋ # nɔŋ/—> | [lɔ?madâŋnɔŋ] | 'on the big thumb' |

This sandhi process results in a superficial identity between the inventory of tones in Ugong and Thai nouns. However, young semi-speakers are in the process of losing the alternation. The result is that some low falling tone final syllables in unanalyzable polysyllabic nouns are always realized as high falling, as in 7 and 8; in analyzable polysyllabic nouns there is variation between stem-final high falling and low falling tone, as in 9 to 12, and frequent low falling tone derivational suffixes as in 10 and 12 are always realized as high falling; these may create high falling tones in non-final syllables of nouns and low falling tones in final syllables.

These results are illustrated in examples 7 through 12; forms such as 8, 9b, 10a, 11b, and 12a are not used by fluent speakers aged about 30 years or more.

- |                       |                    |
|-----------------------|--------------------|
| 7. /lá?phû/           | 'areca'            |
| 8. /lá?phû+ca/        | 'areca leaf'       |
| 9a. /lɔ?+mâ/          | 'thumb'            |
| b. /lɔ?+mâ/           |                    |
| 10a. /lɔ?+mâ+dâŋ/     | 'big thumb'        |
| b. /lɔ?+mâ+dâŋ/       |                    |
| 11a. /lɔ?+mâ+nɔŋ/     | 'on the thumb'     |
| b. /lɔ?+mâ+nɔŋ/       |                    |
| 12a. /lɔ?+mâ+dâŋ+nɔŋ/ | 'on the big thumb' |
| b. /lɔ?+mâ+dâŋ+nɔŋ/   |                    |

The variation in 9 through 12 is found only in readily analyzable compound nouns; it may be the result of generalizing the form without further suffixes, or of generalizing the sandhi rule to non-word-final environments. The fact that less analyzable forms like 8 do not vary suggests rather a lexical diffusion of reanalyzed high falling tones, which is categorical for certain highly productive suffixes that tend to occur mainly in the sandhi environment, such as /dâŋ/ 'big' —> /dâŋ/, and for unanalyzable polysyllabic nouns when there is no surface evidence in isolation of the underlying low falling tone in non-semi-speaker usage.

The variation is in different compounds for different semi-speakers; however, in general the low falling tones in final position are relatively much less frequent. That is, forms such as 9b implying loss of the sandhi rule without reanalysis to high falling tone are fewer than forms such as 9a and the related instances such as 10a and 12a. In my entire corpus there are seventeen instances like 9b out of many thousand tokens, all from two semi-speakers about twenty years old. Other semi-speakers follow the 9a/10a/12a pattern of overgeneralization or reanalysis.

A related reanalysis in two numbers may reflect an earlier stage when the noun sandhi process was more general. 'Seven' is always [ʔi], and the bound form of 'ten' in 'twenty' is always [ʔɛ], as in 13 and 14.

- |     |        |            |            |                   |
|-----|--------|------------|------------|-------------------|
| 13. | [ʔugɔŋ | ʔi         | yúk]       | 'seven Ugongs'    |
|     | Ugong  | 7          | classifier |                   |
| 14. | [nəŋ   | ʔɛ         | yúk]       | 'twenty (people)' |
|     | 2      | 10 (bound) | classifier |                   |

'Twenty', of course, fits the noun sandhi environment without the classifier, but neither fits with an immediately following classifier.<sup>4</sup> There are no numbers with a surface low falling tone, and so it would be possible to subsume these two numbers into the sandhi process by changing the rule and to suggest that 'seven' is /ʔi/ and the bound form of 'ten' is /ʔɛ/; but in counting and elsewhere the high falling forms always occur; thus, it may be better simply to view these two numbers as underlyingly high falling. If so, they would show that current fluent speakers have the beginnings of the low falling to high falling reanalysis in numbers, and that semi-speakers are simply extending and generalizing a language-internal development. For numbers, the tonal inventory is very restricted: only mid level tone occurs with vowel-final or nasal-final numbers other than these two, and only high level tone occurs with stop-final numbers. This restriction may be due to a paradigmatic effect, reinforced by the syntagmatic effect from counting; a related factor is that the reconstructed proto-tones for the non-stop-final numbers between one and nine are the same (Bradley 1979: 338-340).

Verbs with high falling tone fall into various subcategories. Least interesting but most frequent are the Thai loanwords. Also numerous are those with final stops; unlike nouns, Ugong stop-final verbs do occur with underlying high falling tone. More interesting are certain two-syllable verbs in which the second syllable is high falling; the noun sandhi process may appear to be involved. However, two-syllable verbs with a low falling sec-

<sup>4</sup> A classifier is an obligatory word that must occur with every non-round number in most Southeast Asian languages; the classifier that can be used with a noun is usually semantically determined. Thus, the classifier /yúk/ is appropriate when humans are being enumerated; there are also more general classifiers and measure classifiers.

ond syllable are more numerous, thus showing that it is not so simple; see examples 15 and 16.

15. /*ɲìwû*/ 'ask'  
16. /*salò*/ 'new'

A further subclass of verbs includes two members that regularly have a high falling tone: /*kə̃ŋ*/ 'long' and /*tí*/ 'big'; this is the category called "extentives" by Matisoff (1973), and "adjectives of dimension" in Dixon (1982). This class of adjective-verbs has morphological and tonal alternations in many Burmese-Lolo languages, as outlined in Bradley (1979: 240-241, 366). There are no extensive verbs in Ugong that have a surface low falling tone in isolation, but for 'long', there is a bound alternative form with low falling tone, as in 17.

17. /*kə̃ŋ khê*/ 'roll (along)'

Thus, the high falling tone here may also be secondary; perhaps it is a relic of the various proto-prefixes that can be reconstructed with this class; with a prefix, the extentives would have been the last syllable in a two-syllable word; thus again, an earlier stage with greater generality in the current noun sandhi process is suggested.

Another group of syllables with high falling tone in the verbal part of the sentence includes several frequent serial verbs.<sup>5</sup> Most of these appear to derive from main verbs with low falling tone and related meanings, though some have no synchronically obvious main verb source. Syntactically, these serial verbs follow the main verb; hence, they again fit the environment for the noun sandhi. An example of a serial verb with a clear main verb source is /*yû*/ DURATIVE, related to /*yù*/ 'take'; one without is /*kə̃ŋ*/ INTENSIFIER.

A final group of verbs with high falling tone has no obvious source; they are not cognates of Burmese-Lolo etyma in Ugong, nor are they Thai loanwords. It may be that these are loanwords from other sources, such as Karen or Mon; but synchronically they are puzzling.<sup>6</sup> There are only two examples in my corpus, /*mə̃ŋ*/ 'wait' and /*sə̃ŋ*/ 'steam'.

In summary, there is some evidence that numbers, some two-syllable verbs, formerly two-syllable verbs (the extentives), and serial verbs show

<sup>5</sup> The usage of "serial verb" here is not meant in the sense that linguists working on African or creole languages use it; in Southeast Asia "serial verb" means a modal-like item, usually with temporal, aspectual, directional, modal, information-flow or similar meaning, which is part of the verb and cannot be separated from the main verb by any nominal material. This is what Matisoff (1969, 1973) refers to as verb concatenation.

<sup>6</sup> Though I am not able to identify Karen loans, some Karen-speaking Ugong have pointed out a few to me; not, unfortunately, these two verbs.

vestiges of application of the rule that is synchronically productive for fluent speakers only for nouns. Therefore, it could be argued that the high falling tone in all these cases is diachronically secondary and derived from the low falling tone. This also makes sense in terms of tonal reflexes. It appears further that the process is also ceasing to be productive in nouns for semi-speakers; thus, a general process of rule loss and relexification is in progress. In the same way that this is now producing alternatives for semi-speakers as shown by 9 to 12 above in nouns, it has produced a fossilized contrast between a couple of verbs that pattern like 15 and a more numerous group like 16, for fluent speakers. The result of this process is the development of an underlying high falling tone, which makes the Ugong tonal system exactly congruent to that of Thai. This outcome is not surprising, as all Ugong speakers are bilingual in Thai.

### Verbal Tone Sandhi

A second sandhi process is restricted to verbs: with vowel, nasal, or /k/ in final position all native Ugong verbs and variably Thai loanword verbs have alternative forms. For two very frequent verbs, 'eat' and 'go', the alternative forms differ in the vowel and tone in an idiosyncratic way that is probably best regarded as suppletive. For other verbs, there are two alternative forms differing only in tone, as shown in table 3.

**Table 3: Tonal Alternations in Final Syllable  
of Ugong Verbs**

Environment A	Environment B
high level	mid rising
high falling	mid rising
mid level	mid rising
mid rising	high level
low falling	low rising

As discussed above, the high falling tone is lexically restricted, apart from loans and stop-finals. Two interesting observations can be made: one, there is a three-way neutralization of tones in environment B; two, there is a low rising tone that occurs only in environment B of verbs, which are low falling in environment A. This low rising tone does not occur with any other form class. On these two grounds, it appears clear that the environment A forms are underlying; thus, the low rising tone does not appear in table 1. A sandhi rule such as 18 could be formulated; the feature values of the B form from underlying mid level tone would need to be adjusted from [- High] to [+ High] to reflect the absence of a contrast between mid rising and high rising; also, redundantly, in high falling and low falling [+ Falling] automatically becomes [- Falling] when [- Rising] is changed to [+ Rising].

## Tone

18. [α Rising] —> [-α Rising]

**Table 4: Feature Values of Verb Tones**

	High Level		Mid Level		High Falling		Mid Rising		Low Falling	
	A	B	A	B	A	B	A	B	A	B
High	+	+	-	->+	+	+	+	+	(-)	(-)
Low	(-)	(-)	-	(-)	(-)	(-)	(-)	(-)	+	+
Rising	-	+	-	+	-	+	+	-	-	+
Falling	-	(-)	(-)	(-)	+	(-)	(-)	(-)	(+)	(-)

The real question concerns the environment for the B forms. These occur only in syllables with

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finals; that is, not /ʔ/ final, for which only A forms occur. The B forms occur most frequently when the verb group is negated by the negative prefix /ma/, but other environments mostly involve a post-main verb serial verb such as /dú/ DESIDERATIVE or a number of others. Conversely, most verb prefixes and pre-main verb serial verbs, including those with mid level tone, are followed by the A form unless preceded by the negative or followed by one of the post-main verb serial verbs that trigger the B form. Further, there are various post-main verb serial verbs, including some with high tone, that are preceded by the A form. Thus, the conditioning is not based on the phonological form of the serial verbs. It is very tempting, but diachronically unmotivated, to postulate a floating high tone in the B forms immediately after the main verb.<sup>7</sup> Alternatively, one must simply list the serial verbs with which only the B form may occur as the environment for this rule or put a rule application feature into their lexical entry, that amounts to the same thing.

Some examples may make this clearer; using suppletive 'go' and regular 'come', the following illustrate the pattern.

19a.	/kəʔə/	go - DECLARATIVE	'I/you/we (etc.) go'
b.	/diʔə/	come - DECLARATIVE	'I/you/we (etc.) come'

<sup>7</sup> There is no evidence for anything following a negated verb in most Burmese-Lolo languages. The Burmese /ma/ + verb + /phû/ is secondary, with the /phû/ derived from a homophonous experiential serial verb ('to have ever (verb)ed'); this is shown by Arakanese, Tavoyan, and other dialect forms without the /phû/. Sentence-final verb is usual for negated Ugong verbs, unless there is a post-main verb serial verb present.

20a.	/maka/	NEGATIVE - go	'I/you/we (etc.) don't go'
b.	/maď/	NEGATIVE - come	'I/you/we (etc.) don't come'
21a.	/kadú/	go - DESIDERATIVE	'I/you/we (etc.) want to go'
b.	/ďidú/	come - DESIDERATIVE	'I/you/we (etc.) want to come'
22a.	/makadú/	NEG. - go - DESID.	'I/you/we (etc.) don't want to go'
b.	/maďidú/	NEG. - come - DESID.	'I/you/we (etc.) don't want to come'
23a.	/wǎkòʔ/	REPET. - go - DECL.	'I/you/we (etc.) go again'
b.	/wǎdiʔ/	REPET. - come - DECL.	'I/you/we (etc.) come again'
24a.	/mawǎka/	NEG.- REPET.- go	'I/you/we (etc.) don't go again'
b.	/mawǎď/	NEG. - REPET. - come	'I/you/we (etc.) don't come again'
25a.	/wǎkadú/	REPET. - go - DESID.	'I/you/we (etc.) want to go again'
b.	/wǎďidú/	REPET. - come - DESID.	'I/you/we (etc.) want to come again'
26a.	/kòʔǎʔʔ/	go - FATAL - DECL.	'I/you/we (etc.) go to death'
b.	/diʔǎʔʔ/	come - FATAL - DECL.	'I/you/we (etc.) come to death'
27a.	/makaʔǎʔ/	NEG. - go - FATAL	'I/you/we (etc.) do not go to death'
b.	/maďiʔǎʔ/	NEG. - come - FATAL	'I/you/we (etc.) do not come to death'

Thus, /wǎ/ + verb and verb + /ʔǎʔ/ or /ʔʔ/ do not occur with the B form, unless /ma/ or /dú/ are present; and the B form always occurs with /ma/ or /dú/, even if, as in 24, something else intervenes. Other serial verbs are either like /ma/ and /dú/ or like /wǎ/, /ʔǎʔ/ and /ʔʔ/.



For fluent speakers, this system is fully productive and may be extended to Thai loanwords. For some semi-speakers, it is applied fairly consistently to native Ugong verbs. Others have no low rising tone; instead they neutralize four of the five tones to mid rising in the B forms; for these speakers the range of surface phonetic tones corresponds exactly to those of Thai. Semi-speakers with even less control of the system and also most second-language speakers have an alternation only in the most frequent verbs or with only some serial verbs; and there are even semi-speakers who have no alternations, not even the suppletive ones. For such speakers it is the A forms that prevail. Semi-speakers, of course, also have incomplete control of the rather complex co-occurrence and sequencing constraints on serial verbs; some even have declarative particles after a negative, something that no fluent speaker would do, as in 28; contrast 20a which is what most semi-speakers would say.

28. /makòʔɔ/ NEG. - go - DECL. 'I/you/we (etc.) don't go'

## Conclusion

The overall pattern of tonal alternations in Ugong is rather complex. It involves two distinct processes. In both cases, these processes are not fully controlled by semi-speakers, though these people do participate fully and effectively in the Kok Chiang Ugong speech community and are not judged to be linguistically less capable because of their partial or complete leveling out of the tonal alternations. In the most extreme cases, the tone system has converged completely with that of Thai, giving five tones in all form classes; but the phonotactic restrictions on and lexical frequency of such a semi-speaker's Ugong tones are quite different from those of the corresponding Thai tones. Little extra homophony is created, except for some semi-speakers who collapse the mid rising versus low rising B form verb opposition; but compounds become less transparent.

It has been seen that vestiges of an earlier, more general alternation pattern parallel to the nominal tone sandhi are found in the speech of current fluent speakers; therefore, tendencies in the speech of semi-speakers are generalizing an existing change as well as simplifying the tonal system and making it more like that of the dominant language, Thai.

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