

A Gestural Deconstruction the Minor Syllable

The sesquisyllable – and its component major and minor syllables – are ubiquitous in grammars of mainland Southeast Asian (often Mon-Khmer) languages and are usually considered defining characteristics of these languages (Diffloth and Zide 1992, Brunelle and Pittayaporn 2012, among others). Using data from Khmer and Bunong (Mnong), I argue that the notion of the minor syllable is not only ill-defined, but that recent articulatory approaches to phonetics provide evidence that minor syllables differ in their phonological constituency across languages, ruling out any possibility of a coherent definition of the minor syllable and challenging the status of the sesquisyllable as characteristic of Southeast Asian languages.

Sesquisyllabic words are traditionally understood to be composed of two types of syllables: (i) a heavy major syllable, which is right-aligned and is the locus of phonological contrast, and (ii) a weak minor syllable, often containing a [Cə] sequence. Both Khmer (1) and Bunong (2) have been described as having minor syllables (Henderson 1952, Phaen et al. 2012). The present study compares minor syllables in these two languages and interprets the findings in light of Articulatory Phonology (Browman and Goldstein 1989, 1992).

(1)	a) [rə. 'luət]	‘extinguish’	Khmer	(Thomas 1992)
	b) [tə. 'ɲaj]	‘day’	Khmer	(<i>new data</i>)
(2)	[rə. 'biŋ]	‘gourd’	Bunong	(<i>new data</i>)

The Khmer data include vowels in 13 monosyllabic C_ΛC forms, 6 disyllabic C_ΛC. 'CVC forms, and 20 sesquisyllabic C(ə/ɤ)CVC forms, produced by 12 native speakers. Three results emerge. First, the voicing of minor syllable [ə]/[ɤ] is predictably dependent on the voicing of C1. Second, [ə] F1 is significantly lower than [Λ] F1 ($p < 0.0001$), suggesting [ə] is excrescent. Third, [ə]/[ɤ] durations are shorter than underlying unstressed [Λ] in disyllables, which is in turn shorter than monosyllable [Λ] ($p < 0.0001$). These results suggest that the “minor syllable” vowel in Khmer is the result of the separation of consonant gestures (or *gestural underlap*) and therefore does not have an articulatory target.

Bunong, however, lacks disyllabic words, and is claimed to contrast sesquisyllabic Cə.CVC words with complex-onset CCVC monosyllables (Phaen et al. 2012). Results show that monosyllabic CCVC forms (7 forms, 12 speakers) have predictable voiced and voiceless underlap, much like the Khmer “sesquisyllabic” forms. A comparison with 12 minor syllable CəCVC vowels and 21 C_ΛC vowels shows that, in Bunong, underlap F1 is significantly lower than minor syllable [ə] F1 or monosyllable [Λ] F1, which pattern together, unlike in Khmer. Additionally, underlap duration is significantly shorter than minor syllable [ə], which is shorter than monosyllable [Λ] ($p < 0.0001$). Bunong minor syllable schwa is therefore distinct from underlap, indicating that it has a gestural target yet is shorter than monosyllable [Λ] because it is unstressed and that Bunong sesquisyllables are in fact disyllables.

Together, these results demonstrate that the phonological reality of minor syllables differs across languages and that the “minor syllable” is not a coherent linguistic unit. In addition, ambiguity in terminology (i.e. is a “sesquisyllabic language” *maximally* sesquisyllabic or does it simply *have* sesquisyllables?), as well as in possible word shapes (e.g. Burmese allows more than one minor syllable (Green 2005)), suggests that so-called sesquisyllables should be re-evaluated on a language-by-language basis rather than being treated as a theoretical construct of established validity.

References

- Browman, C., & Goldstein, L. 1989. Articulatory gestures as phonological units. *Phonology*, 6, 201–251.
- Browman, C., & Goldstein, L. 1992. Articulatory phonology: An overview. *Haskins Laboratories Status Report on Speech Research*.
- Brunelle, M., & Pittayaporn, P. 2012. Phonologically-constrained change: The role of the foot in monosyllabization and rhythmic shifts in Mainland Southeast Asia, *Diachronica*.
- Diffloth, G., & Zide, N. 1992. Austro-Asiatic Languages. In W. Bright (Ed.), *International Encyclopedia of Linguistics*, 1, 137–142. New York.
- Green, A. 2005. Word, Foot, and Syllable Structure in Burmese. In J. Watkins (Ed.), *Studies in Burmese Linguistics*, 1–25. Canberra: Pacific Linguistics.
- Henderson, E. J. A. 1952. The main features of Cambodian pronunciation. *Bulletin of the School of Oriental and African Studies*, 14(1), 149–174.
- Phaen, T., Sok, M., & Bequette, T. 2012. *Bunong-Khmer Bilingual Dictionary*. Mondulhiri Province, Cambodia: International Cooperation Cambodia, READ Project.
- Thomas, D. 1992. On sesquisyllabic structure. *The Mon-Khmer Studies Journal*, 21, 206–210.