

# REGISTER IN WESTERN CHAM PHONOLOGY<sup>1</sup>

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## 0. INTRODUCTION

An almost family-wide trait of Mon-Khmer languages has been called *register*. The term first used for Khmer by Henderson (1952) describes the binary opposition of certain features such as vocalic openness, voice quality, pitch, and consonant voicing. Where not present synchronically, register is often reconstructable in the proto form (cf. Smith 1973). Studies by Haudricourt (1954) and others have shown the relationship between such tonal languages as Vietnamese and Mon-Khmer register languages. It is perhaps not unreasonable to inquire further whether register may have even existed as a feature of Proto-Austroasiatic.

Austronesian languages have certain characteristics in common with Austroasiatic, such as affixation, syllable patterns as well as some shared vocabulary; enough so that Wilhelm Schmidt postulated Austric as the super-family. Javanese has been described as having both breathy vowels and a lowering of pitch following voiced consonants.<sup>4</sup> Eastern Cham has pitch as a prosodic feature in analogous phonological words.<sup>5</sup> The present paper looks at Western Cham<sup>6</sup> phonology and concludes that its primary opposition is register.

As register has been applied to many Mon-Khmer languages,<sup>7</sup> so now in Western Cham<sup>8</sup> the notion of register is further applied to Austronesian.<sup>9</sup> Since Western Cham is no longer viewed as genetically connected with Mon-Khmer, how is it then that Western Cham has register? Did it arise from the long interplay between Western Cham and Khmer? Western Cham has co-existed in a checkerboard pattern with Khmer for some four hundred years. Before that Proto-Chamic and some of its daughter languages developed alongside of Old and Middle Khmer for upwards of one thousand years. On the other hand, might there be an ancient prosodic bifurcation in Western Cham, Khmer, and other mainland languages which antedates the period of their common history? If that is the case, perhaps Western Cham offers register, which is not evident in the island representatives of Austronesian, as evidence to be accounted for in the reconstruction of Proto-Austronesian.

## 1. PHONOLOGICAL WORD

The phonological word in Western Cham is marked for two defining features: stress and register. The phonological word may be represented for stress as

PW → (SYLL) SYLL

where the main syllable is obligatory and has heavy stress, and the preliminary syllable is optional and has weak stress. Every phonological word ends with heavy stress. In the small class of three syllable words noted below (note 12), the first syllable is weakly stressed, and the second syllable is further reduced; the final syllable receives heavy stress. Thus the first, second, and third syllables in the Western Cham word may be called pretonic, atonic, and tonic respectively.

The other feature which functions at the phonological word level in Western Cham is register. Briefly for Khmer (Henderson, 1952) this involves the following oppositions: *voice quality* - normal, head, clear, and tense versus deep, breathy, spulchral, chest, and relaxed; *vowel quality* - more open, onglided versus close, centering diphthongs; *pitch* - relatively higher versus relatively lower (larynx also lowered); and finally, *initial*<sup>10</sup> (*written*)<sup>11</sup> *consonants* - (original) voicelessness versus (original) voicing, for the first register versus the second register respectively.

Gregerson (to appear) has suggested that the physiological basis for Mon-Khmer register as well as other variously designated phenomena in other languages of the world is the position of the tongue root. Western Cham appears to employ precisely this parameter tongue root

advancement ([TRA]) at the phonological word level.

$$PW \rightarrow \left\{ \begin{array}{l} [+TRA] \\ [-TRA] \end{array} \right\}$$

Phonological words thus marked define two registers or prosody oppositions which constitute constraints on vocalic and consonantal occurrences within the phonological word. Every segmental occurrence (whether vowel or consonant) of the feature [TRA] within the phonological word must agree as to its sign ( $\pm$ ) with every other occurrence.

$$PW \rightarrow \neq [\alpha TRA]^\wedge \dots^\wedge [\alpha TRA]^\neq$$

Each is dealt with in turn below.

In terms of segmental types, the phonological word in Western Cham conforms to the following formula:

$$PW \rightarrow (C_2 V_2) C_1 (C_3) V_1 (C_4)$$

where  $C_1$  is the tonic syllable initial consonant;  $C_2$  the optional atonic syllable consonant;  $C_3$  an optional /l/ or /r/ as a tonic syllable cluster;  $C_4$  the tonic syllable final consonant; where  $V_1$  is the tonic syllable vowel and  $V_2$  is /a/ ([a]v[ʌ]).<sup>12</sup>

$C_1 V_1$	/da/	'duck'
	/po/	'master'
$C_1 V_1 C_4$	/kan/	'fish'
	/ʔbaʔ/	'contagious'
$C_1 C_3 V_1$	/gla/	'crazy'
	/jru/	'medicine'
$C_1 C_3 V_1 C_4$	/hrum/	'sheath'
	/blǎy/	'to buy'
$C_2 V_2 C_1 V_1$	/taha/	'aged'
	/tasi/	'comb'
$C_2 V_2 C_1 V_1 C_4$	/kakan/	'to chew the cud'
	/manayh/	'pineapple'
$C_2 V_2 C_1 C_3 V_1$	/cakla/	'lightning'
	/pahla/	'to hold a ceremony'
$C_2 V_2 C_1 C_3 V_1 C_4$	/madrum/	'guava'
	/tañraʔ/	'dazzling'

## 2. CONSONANTS

The primary opposition in the set of consonant segments is the tongue root advancement ([TRA]) feature. This feature divides the consonants into two natural classes by which they are mapped on to the syllable level of the phonological word. Other distinctive features of Western Cham consonant phonology are [+continuant], [+glottal], [+nasal], [+aspiration], [+coronal], and [+anterior]. The following charts the consonant segments:

	[-TRA]				[+TRA]			
	[+ant -cor]	[+ant +cor]	[-ant +cor]	[-ant -cor]	[+ant -cor]	[+ant +cor]	[-ant +cor]	[-ant -cor]
[-asp]	p	t	c	k	p(*b) <sup>13</sup>	t(*d)	c(*j)	k(*g)
[-gltt]								
[+asp]	ph	th	ch	kh	ph(*bh)	th(*dh)	ch(*jh)	kh(*gh)
[-cont]								
[+gltt]	?b	?d	?j	?				
[-nas]		s		h	w	l	y	r
[+cont]								
[+nas]					m	n	ñ	ŋ

CHART ONE

The [+TRA] stops are not voiced synchronically. What then distinguishes between the otherwise identical sets of stops? Is the feature [TRA] merely a dummy feature? The evidence seems to indicate otherwise. A voiceless stop [+TRA] precedes a vowel segment of the same vowel height and voice quality as does the voiced segment  $\begin{bmatrix} +TRA \\ +cont \end{bmatrix}$ . If no neutralising of vowel height or voice quality thus results in the direction of what is found in a [-TRA] stop-vowel sequence, it is perhaps safe to inquire whether the  $\begin{bmatrix} +TRA \\ -cont \end{bmatrix}$  set is not actually characterised by an advanced tongue root. Though such an advanced tongue root is undetectable to the human eye, we expect that acoustic measuring of Western Cham stops will indicate a difference between the two sets based on the position of the tongue root. Gregerson's arguments (to appear) for the feature TRA further support our hypothesis.

While the two sets of stops are *only* distinguished by [TRA], the pairs of /s,l/ and /h,r/ have other features that distinguish them, though not relevant here.

Any consonant in Chart One above may be the tonic syllable initial consonant, the C<sub>1</sub> of the segment formula, as long as it agrees with the PW [TRA] type. Furthermore, every C<sub>1</sub> consonant may be preceded by an